

Vol. 2

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No. 11

MONTHLY BULLETIN

OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner



A BULLETIN OF INFORMATION FOR THE PUBLIC

NOVEMBER, 1915

HARRISBURG, PA.
WM. STANLEY RAY, STATE PRINTER
1915.

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**Dr. John C. Price, Late Chief Medical Inspector,
Department of Labor and Industry.**

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PERSONNEL OF THE DEPARTMENT OF LABOR AND INDUSTRY.

The Commissioner, who has charge and direction of the Department, is John Price Jackson.

The Industrial Board consists of:

John P. Woods, Philadelphia; Mrs. Samuel Semple, Titusville; James C. Cronin, Philadelphia; Otto T. Mallery, Philadelphia; John Price Jackson, Chairman, and Louis A. Irwin, Secretary of the Board.

The Chief of the Bureau of Inspection is Lew R. Palmer, who is assisted by the members of the Division of Industrial Hygiene given below and also by: W. H. Blakeslee, Medical Inspector; Elizabeth B. Bricker, Medical Inspector; Jacob Lightner, Francis Feehan, J. J. Coffey, and J. P. Quinn, Supervising Inspectors; district inspectors; etc.

The Division of Industrial Hygiene and Engineering consists of John H. Walker, Civil Engineer and fire prevention expert; Richard M. Pennock, Mechanical Engineer and expert in heating and ventilation; John S. Spicer, Chemical Engineer. The Commissioner and Chief Inspector are members ex officio of this Board.

The Chief of the Bureau of Statistics and Information, Paul N. Furman, is assisted by Wilson I. Fleming, Assistant Chief; W. H. Horner, Statistician; Collectors of Statistics, clerks, etc.,

The Chief of the Bureau of Arbitration and Mediation is Patrick Gilday.

James A. Steese is Chief Clerk and has associated with him bookkeepers and stenographers.

Publications are under the general direction of S. S. Riddle, Editor

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In the midst of his work, last summer, he became suddenly too ill to continue at his office, and after several months of sickness finally died at his home in Camp Hill, on October the thirteenth. His age was forty-four years.

While Dr. Price's official services to the Department will be greatly missed and his place hard to fill, the services he rendered in a personal way by encouraging the other workers and smoothing over the rough places for them, will be almost impossible to replace. The members of the Department, who remain to continue their duties, hold in sacred memory their much loved fellow-worker, and are constantly inspired by his brave and cheerful example.

THE SAFETY IDEA AS RELATED TO CREDIT GRANTING.*

CHARLES E. MEEK,

of the American Exchange National Bank, New York; President of National Fire Protection Association, and Past President of National Association of Credit Men.

Definite results are always welcome to those seriously interested in the work of an organization like the National Safety Council.

Your records are doubtless filled with a mass of evidence of such a convincing nature that the doubting Thomases, of which there is always a plentiful crop, are in danger of being persuaded that there really is something of value in co-operative action.

My eyes were opened as to what the safety movement really means when a few days ago I visited a large manufacturing plant and in the course of conversation with the company's financial manager was told that about eighteen months ago the company added to its staff of experts a safety engineer, and that the result was highly satisfactory, for at the end of the fiscal year it was found that less than one hundred dollars had been paid out to injured employees. I was told that every inch of this vast plant, where thousands of men are employed, had been treated to a full dose of safety methods. This treatment not only produced actual results in reducing the chances of accidents to the minimum, but it eased the minds of the managers, giving them more opportunity for the development of their regular work. The safety expert of this company is consulted regarding every proposed change in the plant and its machinery, and nothing is left undone for the protection of life and limb.

*Address delivered during the third annual meeting of the National Safety Council held in Philadelphia, October 19 to 21, 1915.

There is an important consideration which should not be lost sight of, namely, the effect of safety methods on the expense account. The highly successful manufacturer is the one who is able to keep down the cost of production; protection against accidents will help to accomplish this.

It is impossible to find a single argument why the introduction of the safety principle into any business is not a good investment. In fact, there is everything in its favor. At the same time, you are doubtless experiencing the same uphill fight in the development of your work that other organizations have experienced. This should not be a cause for discouragement, but rather should be an incentive. There is more satisfaction in winning a hotly contested fight than in having an easy walk-over.

For twenty years the National Association of Credit Men has been engaged in educating our business men in the application of safety principles to the granting of credit. It has endeavored to impress upon its members that the giving of credit should be based upon substantial facts, and that the "take a chance" idea is gambling, pure and simple. The credit man of today keeps in close touch with the business of his customers. He watches every development and does not hesitate to criticise the weak points, or commend the strong points, in the policies of those with whom he deals.

A highly important factor in credit work, and one strongly emphasized of late years, is that of fire insurance and fire protection. It is on this common ground that the National Association of Credit Men and the National Fire Protection Association meet. The Credit Men discovered that a great many of their customers either neglected to protect themselves against loss through fire or handled their insurance so indifferently that it often times was of no value. A vigorous campaign was started, in which printed matter and speakers were used to show the necessity for full insurance placed with responsible companies, and every one was urged to know thoroughly and live up to the requirements of the insurance contract. No opportunity was lost to impress upon every one that a credit unprotected against danger of loss through fire belonged to the "take a chance" class and should not be tolerated. Questions regarding insurance were introduced into financial statement forms, and the mercantile agencies aided the movement through special work. Today, the relation of fire insurance and fire protection to credits is on this basis: Insurance reinforced with fire prevention methods stands first; insurance, alone, ranks next; the use of fire prevention methods without insurance is third; and the absence of both insurance and fire prevention methods removes every excuse for the extension of credit. Fire prevention methods not only reduce the hazard, but also

the cost of the insurance. In some instances the latter is probably the only incentive to their use, but in many cases a broader view prevails and consideration is given to protecting life and removing as far as possible the unpleasant experience of having a life's work destroyed.

While great progress has been made by the National Association of Credit Men in this direction, the work is by no means finished. It has, however, reached a point where it is handled with less difficulty. In view of this, why not seize the opportunity to advance another step by encouraging the employment of safety methods, or, in other words, place a premium upon their adoption, in the same manner as outlined in the reference to fire protection? By adding to the financial statement form a single question, the attention of thousands of business men will be attracted, many of whom will realize the value of the safety movement. There are some who might consider inquiry into this subject as impertinence, but there is every justification for it, for the reason that bankruptcy has frequently followed accidents where loss of life or serious injuries have occurred; and it is the duty of every credit man to use his influence toward the elimination of every cause of bankruptcy. An employee who has met with a preventable accident is no longer an asset, but belongs in the liability column, and it is the overloading of this side of the ledger which results sooner or later in failure. In my work I have visited manufacturing plants of every description and invariably have carried away an impression as to the business ability of those responsible for their management. The clean light workshop, where every precaution against fire and accident is taken, is evidence of good management, and under such conditions the product is bound to be superior, all of which tends to influence a higher credit standing.

Employers are doubtless often discouraged by the lack of appreciation on the part of their employees, who fail to use the means provided for the safety of their lives and limbs. The other day I stood in front of a large plant, the entrance to which was crossed by several railroad tracks. A subway had been provided, at each end of which stood a prominent sign, reading, "Don't Cross the Tracks—Use the Subway." As it was close to the noon hour, I waited to see how many would follow the sign and was not surprised to see it entirely disregarded, for not a single person used the subway. A splendid exposition of our "Jay-walking" habit.

It is estimated that 35,000 workers were killed and 2,000,000 injured during 1914.

During the same year \$236,000,000 worth of property was destroyed by fire.

In the same period 18,000 business failures occurred, with liabilities of \$358,000,000.

This tremendous waste is being fought by your organization together with the National Fire Prevention Association and the National Association of Credit Men. How closely related is the work of these organizations! for in the last analysis it is the conservation of life, property and credit that they are all standing for. It is an uphill fight, full of discouragement; and when one considers that in spite of the vigorous campaign carried on for years against fire we keep on burning up about the same amount annually, isn't it a strong indictment against the intelligence of the American people?

I assume that your work is not limited entirely to your members and those eligible for membership, but that you are spreading the doctrine of safety broadcast throughout the country. The extent to which work of this character can be carried on depends, of course, upon the funds available for such a purpose. The two organizations I represent have to an extent solved this question. They have developed from their membership men who can intelligently and interestingly discuss questions pertinent to their policies. These men have invaded the public platform, the meetings of trade organizations of every character, and the school house. And the last-named is an effective working place, for if we get the youngster thinking the right way, we are saved the hard job, later on, of converting a grown-up. There is little expense connected with this; it means more, a sacrifice of time. The development of classes for the study of the theory of credit and the present methods applied to the management of a credit department, has far exceeded the brightest hopes of those responsible for their introduction. Men are today being shaped up for business better than ever before—a profitable investment in the long run.

A great national safety movement is on the way. It embodies the same principles the organizations I have named stand for—the protection of the lives, property and credit of the people of the United States. The great problem of this movement is of a financial nature. Just think of it, the American people will burn up during the next few years property the equivalent of which would build all the battle-ships and fortifications needed.

In closing, I present to you the greetings and good wishes of the organizations I represent, and pledge to you their cordial co-operation. As time goes on may these three great business organizations become more closely bound together, for we are engaged in a righteous cause and are building for the future prosperity of America and its people.

ACCIDENTS IN PENNSYLVANIA INDUSTRIES DURING OCTOBER.

Accidents in Pennsylvania Industries during October resulted in injury to 5,162 employees, according to reports made to the Bureau of Statistics and Information of the Department of Labor and Industry. Ninety-three workers died from their injuries.

The total of industrial accidents for October is lower than the monthly record for either August or September of 1915. In September the record of 5,693 industrial workers, killed and injured, is the highest for any month during the year.

The marked reduction of almost ten per cent. in the total number of injuries during the month of October under September's record is generally regarded as due to increasingly smoother working conditions in plants rushed with war orders.

Of the total number of workers injured during October, 475 were disabled for more than thirty days, and 4,584 were disabled for periods of less than thirty days. Wednesday continues to be the day of the week when most accidents occur.

The record of October accidents by days is as follows:—Wednesday, 929; Tuesday, 874; Friday, 872; Thursday, 861; Monday, 835; Saturday, 583; Sunday, 208.

During the first ten months of this year 43,890 workers were injured in Pennsylvania industries according to reports made to the Bureau of Statistics and Information. Of that number 837 died from their injuries, and 3,227 were disabled for more than thirty days.

The detailed report of all accidents reported during the month of October is given on the opposite page.

REPORT OF ACCIDENTS DURING OCTOBER.

Industry.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Male.			Female.			Total.	Total for month.
								Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.		
Nursery, .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Engineering, ..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Building	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Trades,	1	4	6	2	7	2	2	....	3	21	....	....	....	24	....
Chemicals, ...	4	16	18	12	12	14	12	3	4	81	....	....	....	88	....
Clay—Glass, ..	10	10	12	10	8	12	7	2	3	64	....	....	....	69	....
Clothing, .....	....	2	....	1	....	....	....	....	....	3	....	....	....	3	....
Food,	2	3	3	2	....	6	8	1	....	23	....	....	....	24	....
Leather,	1	4	9	6	3	2	1	....	....	26	....	....	....	26	....
Liquors, .....	....	....	1	....	1	....	....	....	....	2	....	....	....	2	....
Lumber,	1	3	3	2	5	4	3	2	3	16	....	....	....	21	....
Paper, .....	....	3	1	1	2	3	5	....	1	14	....	....	....	15	....
Printing, .....	....	....	....	1	....	....	....	....	....	1	....	....	....	1	....
Textiles, .....	....	5	3	5	4	11	2	1	2	23	....	....	4	30	....
Miscellaneous, ..	2	7	13	11	8	14	6	2	6	50	....	1	2	61	....
Laundries, ....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Metals,	107	350	372	412	397	358	254	14	183	2,051	....	....	2	2,250	....
Mines,	16	200	205	214	208	214	153	64	172	980	....	....	....	1,216	....
Public	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
service,	64	227	227	248	206	232	123	4	94	1,225	....	2	2	1,327	....
Tobacco, .....	....	1	....	....	....	....	....	....	....	....	....	1	....	1	....
Unclassified, ..	....	....	1	2	....	....	1	....	....	4	....	....	....	4	....
Total,	208	835	874	929	861	872	583	93	471	4,584	....	4	10	5,162	5,162

SAFETY ATTACHMENT FOR LARGE BUCKETS.

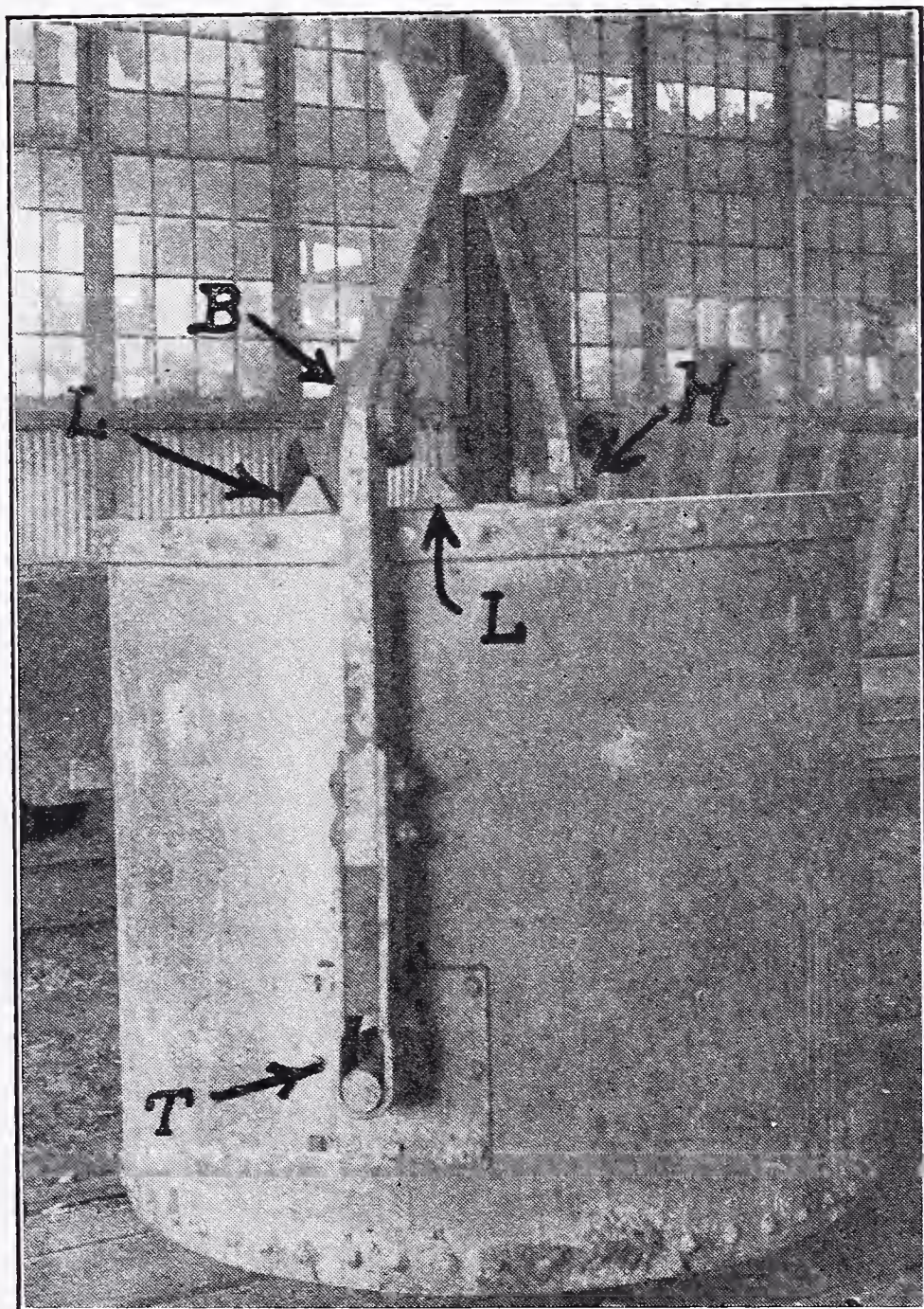
The accompanying illustration shows a method adopted by the Commonwealth Steel Company, Granite City, Ill., for preventing the bails of their large sand buckets from falling over and injuring workmen who may be standing nearby. In the illustration the lugs marked "L" are riveted to the rim of the bucket. When the bucket is lowered to the floor the lug "B" on the bail settles into the notch formed by the two lugs "L" and holds the bail upright. This settling movement is accomplished by the play provided at the trunion marked "T." When the hook has taken up the bucket, as shown, the play at the trunion "T" is sufficient to allow the lugs on the bail to clear the lugs on the rim, so that the bucket may be turned over. The latch "H" is provided to hold the bucket in an upright position when suspended from the hook and also to aid as an additional device when the bucket is standing alone.

Many steel companies and users of large buckets provide only the latch "H". The danger in handling a bucket equipped only with a latch of this kind is that if the workman forgets to throw this latch, the bail falls over and may cause severe injury to men standing nearby. The device shown is entirely automatic in its action, and in no way interferes with the use of the bucket. The Department of Labor and Industry believes that the installation of lugs of this character would eliminate this class of foundry accidents.

The photograph was furnished through the courtesy of E. B. Morgan, Safety Engineer of the Company.

TRIVIAL ACCIDENT RESULTS IN BLOOD POISONING.

An unusual accident has recently been reported to this Department whereby a young woman was caused considerable pain, discomfort and loss of time, owing to the fact that she did not pay proper attention to a minor injury which she had received. This incident serves very well as an illustration not only of the way in which minor accidents may lead to serious results, but also shows that accidents may occur from almost unbelievable and unthought of sources.



A "Safety First" Device.

A young telephone operator, performing her usual duties at the switchboard, caught a finger nail in some manner on the plug while placing the same into the switchboard. The finger nail was broken slightly and torn away from the skin. The wound seemed very insignificant and did not prevent her from continuing work.

The next day there was considerable pain and she was advised to consult a doctor and have the finger treated. Instead of doing so, however, she waited two or three days and then went to a druggist who gave her some salve which she placed on the wound. The finger was then bound up and she continued her work. When asked if she had seen a doctor, she replied that she had and that the finger was getting along all right.

It was noticed, several days later, however, that she was in great discomfort and finally the manager asked her if she had gone to a doctor. She admitted then that she had not and she was told to see a doctor immediately. Several days passed and as the finger still appeared to be giving her considerable pain, the manager asked her if she had done as he had requested her to do, and she finally admitted that up to that time no doctor had seen the wound. Immediate steps were taken to procure a physician and it was found that her hand was in a very serious condition as blood poisoning had set in and it was necessary to perform an operation.

This operation took place at least one month after the finger nail had been torn and as a result of the operation the young woman was compelled to be absent from work about two weeks. She has now, fortunately, fully recovered from the infection but the experience which she has gained and the suffering which she endured have conclusively led her to believe that it is dangerous to treat with indifference any wound, no matter how slight it may seem.

Whenever the skin is broken and the blood or inner tissues are thus exposed to infection, it should be a universal practice to apply an antiseptic in order to prevent the entrance of any disease germs. If this is done, the large number of time-lost accidents due to infections will be materially reduced and much unnecessary suffering will be avoided.

REPORT ON THE METHODS EMPLOYED IN THE WHITE LEAD AND THE LEAD OXIDE INDUSTRIES IN PENNSYLVANIA TO SAFEGUARD THE HEALTH OF THE WORKMEN.

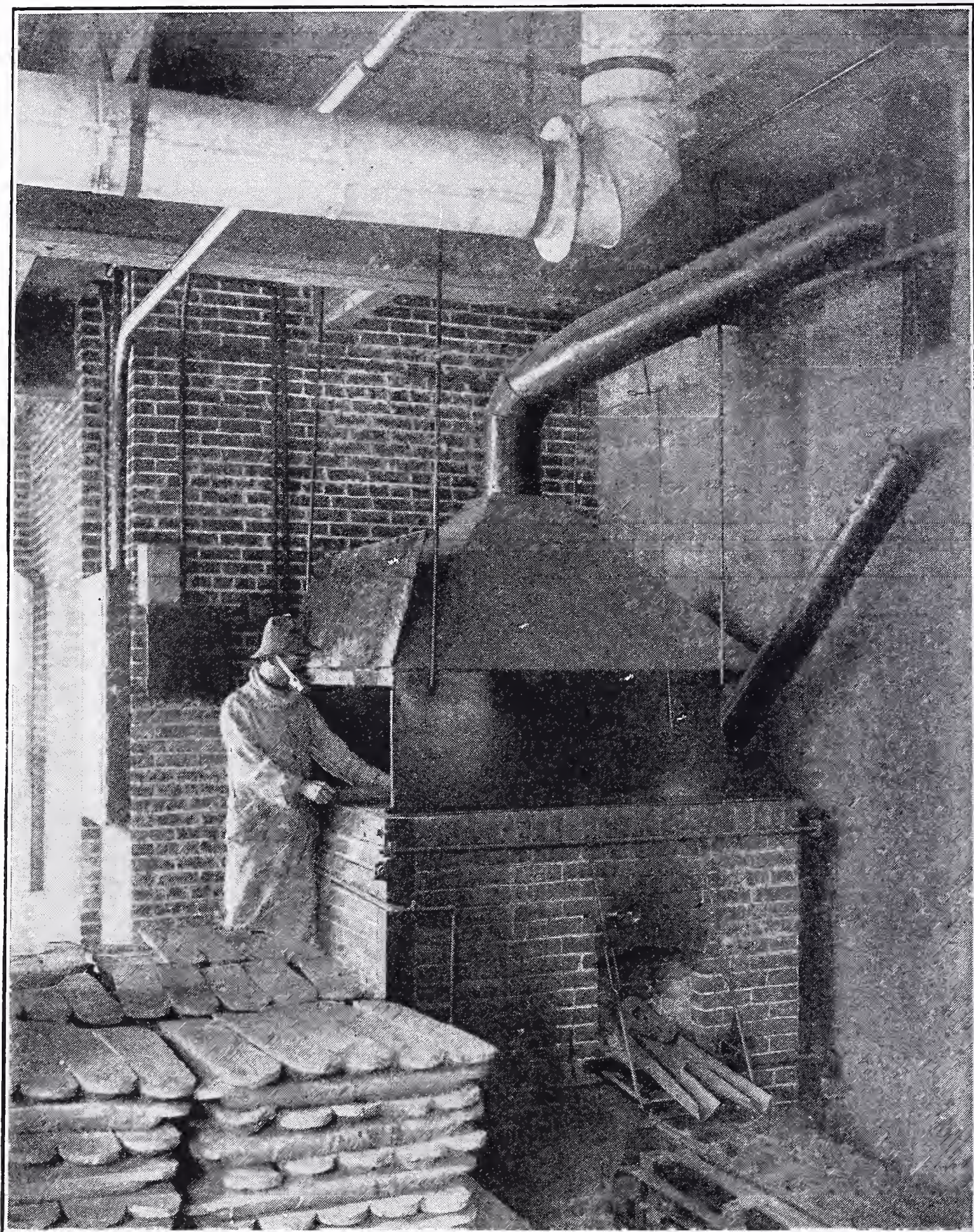
I. INTRODUCTION.

Of all the metals used in the arts and industries, lead has the widest range of application. Dr. Thompson, in speaking on occupational diseases, names 86 trades in which lead is used, either in metallic form or its compounds—salts, alloys, etc. Even a brief description of all these trades, interesting as they may be to the student of industrial hygiene, would be irrelevant in this brief report, which is concerned only with the manufacture of the three salts of lead of greatest utility—carbonate, the yellow oxide, and the red oxide. These salts are extensively used in making paint, dry colors and glass. They are also employed in making rubber, putty powder for polishing and enameling, and glaze for glazing tiles, pots and bricks. Litharge and red lead are used in storage batteries. Plumbers use red lead to seal seams and joints in pipes. In carrying on the various processes of work involved in these different trades, as well as in the manufacture of the products upon which these elementary trades depend, a considerable number of workmen are brought into contact with lead. As lead and its compounds are poisonous, the opportunities for the development of industrial poisoning are abundant, varying with the personal habits of the workmen, the conditions of manufacture, and the form of lead employed in any particular industry. Statistical records collected from various sources show that lead poisoning is the most common occupational disease, the mortality from which exceeds that of any other metal.

Although lead in any form may cause poisoning, its salts and alloys are the most active toxic agents, which exploit themselves about the workroom in the form of dust. This ubiquitous dust may be inhaled into the lungs, carried to the mouth by the hands, or swallowed with food. Having gained entrance to the body, the poison mingles with the secretion, and in a subtle manner saps the vitality of the individual. Its effects upon the human body will be considered subsequently.

The danger, then, to the workers in the white lead and lead oxide industries lies in the dusty process associated therewith, and is greater the less the dust is under control. Of the compounds of





Exhaust System Used in Connection with Casting Blue Buckles.

lead, the most important ones in respect to plumbism are the carbonate and the oxides, because they are most employed in the industries.

A brief description of the different processes employed in the manufacture of white lead and the lead oxides is here given.

II. THE MANUFACTURE OF WHITE LEAD.

1. THE OLD DUTCH PROCESS.

This process is more commonly employed in Pennsylvania than any other. It consists of forming basic lead carbonate (or white lead) from metallic lead by subjecting the latter to the vapors of acetic acid, carbon dioxide, water and heat for a period of one hundred days.

The following steps may be observed in tracing the process of the manufacture of white lead from the raw material to the finished product:

(a) *Casting of Blue Buckles.*—These buckles are thin circular plates of metallic lead five or six inches in diameter, and a quarter of an inch to an inch thick. They may have a circular rim and crossbars, or be cast solid. The casting is always mechanical. Pig lead and scrap from the mill are placed in large iron kettles, which, in all the plants inspected, were hooded to catch the escaping fumes. The scraps consists of cores of uncorroded lead and white lead. In handling it there is a possibility of creating dust in the casting room unless some precaution is employed to prevent it. In the plants inspected, this danger was overcome by moistening the scrap with water. The molten metal runs out of the kettle into molds, which travel along on a conveyor or endless chain, and as the chain turns over the buckles fall off and are collected in a heap nearby. They are then placed in trucks and conveyed to the stack house or corroding bed. This is usually a large one-story building, built of re-inforced concrete or stone, and is divided into stacks or chambers, with high walls, which open into a central corridor or yard. The stacks and yard are included under one roof.

(b) *Setting the Stack.*—The blue buckles are placed in porous earthenware pots, which contain dilute acetic acid (2-4%), and which are shaped so as to prevent the buckles from touching the acid. Each pot contains about 12 pounds of buckles. These pots are placed side by side in rows on a layer of tan bark about 6 to 8 inches deep. When a layer of pots is set, it is covered with a double layer of boards, and 6 to 8 inches of tan bark is placed over the boards. This pro-

cedure is repeated about twelve times, and the top layer is covered with tan bark to a depth of 18 inches. Each stack contains about 120 tons of metallic lead. A wooden ventilation pipe about 6 inches square, called a "gun," is placed in the centre of each layer, and extends several feet above the level of the top layer of the tan bark. This "gun" allows the gases or vapor and steam generated by chemical action to escape, and furnishes also a means of determining the temperature of the stack. The set stack is now left undisturbed for one hundred to one hundred and ten days.

During this time, the following changes take place:

1. The decomposition of the tan bark generates heat, which converts the acetic acid into a vapor. This vapor attacks the lead buckles and converts the metallic lead into lead acetate.

2. The decomposition of the tan generates carbonate dioxide, which then converts the lead acetate into lead carbonate. The weight of the white lead exceeds that of metallic lead by eighteen to twenty-five per cent.

(c) *Stripping or Discharging the Stacks.*—In stripping the stack, the first layer of tan is removed; then the cover boards. The workmen then pick up the pots by hand, and dump the corroded buckles into a bucket nearby, always knocking the pot against the side of the bucket to remove all the contents. This always creates dust. To prevent this dust from reaching the workmen, the buckets, in the majority of the plants inspected, were hooded, and attached to a large vacuum chain, a so-called "dragon," with an absolute pull. This process is repeated until the stack is emptied. The tan bark left in the stacks after the pots have been removed is full of lead particles. This is removed to the oxide department, or to a washing trough, where the tan bark is floated off and the carbonate reclaimed.

When the buckets are filled with white buckles, they are conveyed to the dump, which is the beginning of the separator system.

(d) *The Separating System.*—The crane bucket is placed directly on top of the dump hopper, and by mechanical means the bottom of the bucket is opened outward, and discharged its contents into the hopper. At this point considerable dust is made. To prevent its escape into the surrounding atmosphere, and thus imperiling the workmen, exhausts of varying efficiency were employed in the different plants visited. From the hopper the corroded and uncorroded lead passes to the first screen. Here the corroded lead is separated from the uncorroded portion of the buckles. The uncorroded portion is rolled into balls and returned to the melting pot. The corroded lead passes through the screen, and is forced into the dust separator proper. Then from the separator this corroded lead

is conveyed to the second screen, and thence to the first set of rolls. Here the corroded lead is reduced to a fine powder, the minute particles of blue lead are flattened out like a fish scale and caught on the screen and discarded to the oxide mill. The corroded lead then passes to the third screen and the second rolls, and thence to the fourth screen. All parts connected with the screens and rolls are carefully housed and connected with a dust collecting system.

(e) *The Water Mill System*.—From the fourth screen the corroded lead is carried by an elevator to a closed steel bunker. From this bunker the white lead is fed mechanically into a thrasher, where it first comes in contact with water and is reduced to a pulp. This pulp is then fed into large, high-speed, stone mills, ground therein twice, and then pumped into a classifier and mixed with a large volume of water. On leaving the classifier, the white lead and water enters a silk screen, and all that cannot pass through this screen is rejected and reground. From this screen the mass passes through a riffle box into the washing and settling tanks.

(f) *Subsequent Courses*.—After reaching the settling tanks, the lead and water may be disposed of in different ways.

1. The lead and water may be pumped into filter presses, where it is pressed into cakes. These cakes are carried through a tunnel dryer to a pulverizer and reduced to powder, and then placed in the barrel packer or carried to the oil mixer (or chaser), and incorporated with linseed oil.

2. The white lead from the settling pans is mechanically carried to the chaser, where the lead is mixed with oil, which displaces the water.

3. From the settling pans the lead and water are pumped into large copper drying pans, usually placed one over the other in the drying room, or kiln. This room is usually very hot, and the windows kept closed to favor drying. The lead remains in these pans until it is bone dry, and then the workmen enter the pans and shovel the dry lead into open trucks or barrels. It is then conveyed to a pulverizer, reduced to powder and barreled, or conveyed to the chaser and ground in oil.

2. THE CARTER PROCESS.

The Carter Process is a rapid way of producing basic lead carbonate from pig lead by the action of acetic acid, water, vapor and carbonate dioxide. The corroding time is reduced from one hundred days to thirty days. It is claimed that this process is more under control and the degree of corrosion is more complete than by the old Dutch process.

The pig lead is delivered by an automatic elevator to the melting pot, which is fired with a mixture of oil and air. This is hooded and connected with an exhaust system. The molten lead flows in a little stream to a temporary kettle, where it is met by a current of superheated steam, and reduced to dust (blue dust). This blue dust is discharged into a hopper and carried to the dust separating chamber, which is entirely closed, and shaken on the outside by a shake lever. From the dust separating chamber the dust is carried by a screw conveyor to a receiver, which discharges it into reels. These reels consist of large wooden cylinders, which revolve slowly so as to turn the blue powder over and over. The contents of the reels are moistened with water, and very dilute acetic acid added in very small quantities. Carbon dioxide generated in the power plant is then fed directly into the reels. As the reels revolve, automatic hammers strike the outside of the reels to prevent caking of the mass on the sides of the reels. This corroding process is continued for fifteen days. The mass is now in the shape of small balls, consisting of white lead on the outside and uncorroded lead in the centre. These balls are then removed from the reels, pulverized by rollers and recorroded. They are finally fed by conveyor belts into the finishing reels, where the corrosion is completed. The fully corroded lead is then conveyed by conveyor belts into the thrasher, where it is mixed with water, and then conveyed to the classifier.

The subsequent processes in handling the corroded lead are similar to those employed in the old Dutch process, and need no further description.

3. THE QUICK PRECIPITATION PROCESS.

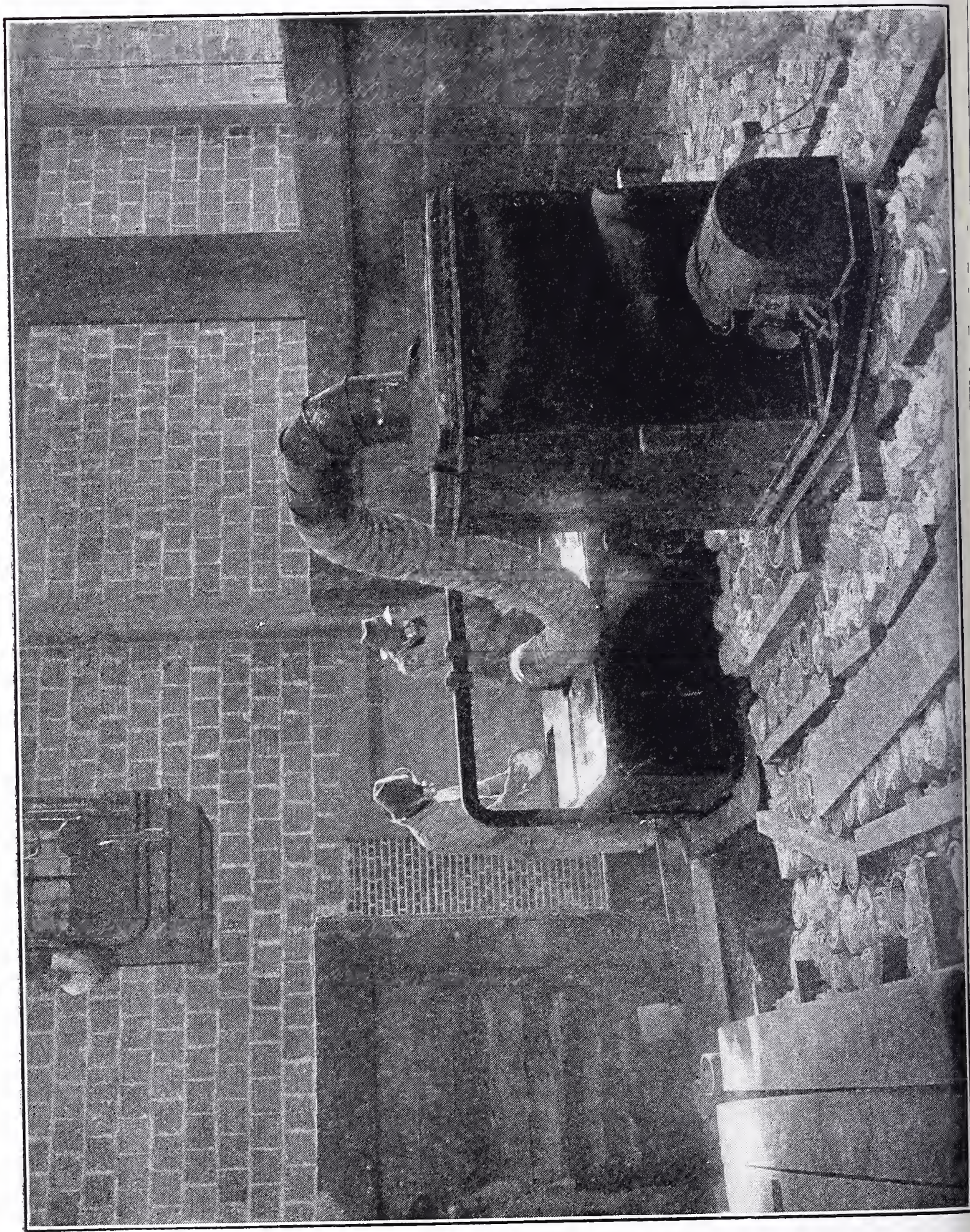
Pig lead is melted in hooded kettles, from which the molton lead flows into a tank of water, where it is converted into feathery masses. This feathered lead is carried in pockets on a conveyor belt to the corroding tanks, where it is subjected to the action of water, acetic acid and air, which changes the lead into a mixture of oxide and carbonate. From the corroding tanks the mass is pumped into the precipitation tanks, in which carbon dioxide is introduced. The carbonate of lead settles, and is then pumped into the filter presses, from which the pasty mass is dropped into water and thoroughly washed.

The subsequent procedures are the same as obtain in the old Dutch process, pulp grinding and packing, packing dry, or grinding in oil and packing.

III. THE MANUFACTURE OF WHITE LEAD.

Litharge (PbO) and red oxide, or minium (Pb_3O_4), are the two oxides commonly used in the industrial arts. Trade secrets are associated with these processes in many plants. Hence, no extensive





details can be given. The process is essentially one of oxidation in a furnace. In the first stage, or first burning, during which a limited amount of air and an excessive amount of heat are supplied for about thirty-six hours, litharge is formed. In the second stage, or second burning, the litharge is converted into red lead by heating in a moderate furnace, in the presence of an abundant supply of air.

The furnace is charged with a batch of pig lead or scrap. From time to time the contents of the furnace are raked with a long-handled hoe. The oven is emptied by raking out the charge into an open wheelbarrow. The front of the furnace is usually hooded, and connected with an exhaust to remove the fumes. The lead is now in the form of a light yellow powder, more or less lumpy, and is known as litharge. It is then fed into a crusher and carried to an air separating machine. From this machine the finest particles are carried to a "cyclone collector", and the coarse particles fall into the hopper, and thence into the packer. From the "cyclone collector" the dust is forced into the dust collecting system, and thence into the hopper, from which it is fed into the packer. It is then barreled, and is known as the yellow oxide of lead.

If the litharge is to be converted into red lead, it is removed from the crushing machine and fed into a reverberating furnace. The finished product is removed from the furnace, pulverized, collected and packed in the same way as litharge. Wither oxide may be ground in water.

The oxides are rather light and fluffy, and therefore, the oxide mill is usually more dusty than the white lead mill. Less men, however, are employed in the oxide mill. Nevertheless, all parts of the oxide mill should be carefully hooded and connected with a sufficient dust collecting system.

THE DUST COLLECTING SYSTEM.

Such a system is a necessary adjunct to the process of manufacture of lead salts, both on account of industrial economy and also to protect the workmen from the hazards of lead dust. The demands of the trade for the salts of lead in dry form is a third reason for operating this system.

This system consists of a dust house and collectors. The dust house is entirely separated from the rest of the factory. The collectors consist of long, narrow, canvas bags suspended from the ceiling of the dust house. The dust from the different parts of the separator, from the pulverizer and packer, from the chasers and from the dry pans, is forced by fans through pipes into the collectors. Much dust clings to the inside of these canvas bags, and is dislodged by striking the sides of the bags. This may be done by hand, which

is a dust creating method, or by mechanical shakers manipulated from outside the dust house. These bags are repaired from time to time. This also is a dusty process. The installation of a suitable exhaust in the dust house eliminates the dangers from dust and keeps the house clean. The collectors may end free with the ends tied in knots, or may open directly into a closed hopper into which the dust falls. From the hopper the lead dust may be fed mechanically into a water tank, or to the chaser or packer.

IV. LEAD POISONING.

From clinical experience it has been observed that the introduction of traces of lead into the human economy, often repeated and continued for a long period of time, causes more harm and produces more serious disease than the occasional introduction of lead in large amounts. Such conditions obtain in the lead industries. The portal of entry may be through the skin, the stomach or the lungs. The first is of no great consequence. Statistics show that the greatest danger results from absorption through the lungs.

Introduced in this way into the system, lead soon attacks the functional activities of the kidneys and liver. It early blocks the channels of escape and disturbs the equilibrium between the elimination and absorption. Lead accumulates in the system, thereby producing a toxaemia. It may be retained indefinitely or be eliminated intermittently. If the waste products of metabolism are not eliminated, an auto-intoxication follows. Later degenerative changes occur in the kidneys, the vascular system and the nervous system. Thus lead produces its effects in a slow and insidious manner, and the victim is wholly unconscious of the danger to which he is exposed until irreparable damage has been done. He enters a condition of chronic ill health. The blighting power of lead strikes most severely at young adult life, especially females, among whom the cerebral form of plumbism is most common.

The most striking symptom of lead poisoning is colic. This is usually preceded by a slight metallic taste in the mouth, loss of appetite and nausea, headache, extreme lassitude and constipation, and the features become pale and expressionless. These symptoms may continue for days or weeks, and if exposure to lead continues, are followed by sudden and severe pain in the abdomen near the navel. Vomiting usually occurs and constipation continues, or there may be diarrhea. The pain may be paroxysmal or constant, and during the height of its severity the patient may writhe in agony. It may last several days, but gradually lessens in severity. Simultaneously with the colic, intermittent cramp-like pains may appear in the arms and legs, especially in the neighborhood of the joints.

A residual tenderness or soreness remains which may radiate to either side. The abdomen is usually retracted, the pupils are unequal, and the pulse is slow. These attacks may recur if the victim becomes careless.

In persons suffering from plumbism, there usually develops a blue line along the margin of the gums close to the teeth, which is more conspicuous on the lower jaw (Bertron's line). It is formed by sulphuretted hydrogen from decaying food between the teeth combined with lead to form lead sulphide. This blue line often remains after the other symptoms have disappeared. It is a valuable sign only when accompanied by other symptoms.

As the disease advances the pallor becomes more marked. This is due to anemia. The red blood cells are reduced to one-half, or even one-third of their normal number, and the coloring matter of the blood is greatly reduced. The general nutrition becomes impaired and causes extreme emaciation.

Another important symptom is muscular paralysis, which generally first involves the extensor muscles of the wrist, producing the characteristic "wrist drop." This is general bilateral, and usually appears subsequent to the colic. It may be transitory or permanent. The muscles soon atrophy, and early show the reaction of degeneration. In advancing stages of the disease marked degenerative changes occur in the brain, which may manifest themselves in the form of hysteria, delirium, convulsions or insanity. There is a special form of disease which occurs in young females. It is usually preceded by severe headache, followed by sudden convulsions and coma, and may be fatal in two or three days, and resembles eclampsia. This disease is rare in this country.

Lead sometimes produces blindness. It may be temporary or permanent. It is due to neuro-retinitis, with or without hemorrhages.

Arteric-sclerosis, with enlargement of the heart and Bright's disease, occur in the final stages.

V. PREVENTION AND PROTECTION.

Inasmuch as lead is employed more extensively in the arts and industries than any other metal, and also is possessed with marked poisonous properties, it is the paramount duty of industrial hygiene to protect the workmen from this insidious foe, and thus prevent needless waste of human energy. This insidious foe lurks about the work room, chiefly in the form of dust, and efficient methods must be put into practice to eliminate it. These methods are:

1. To prevent the formation of dust by adding water, oil or any other suitable liquid to the dust, or install suitable closed automatic devices.

2. Separate the dusty processes from the non-dusty processes by suitably constructed apparatus.

3. Remove the dust at its point of origin by a system of exhaust ventilation. This should include a dust collecting system.

4. Safeguard the workmen by the following measures:

- (a) Maintain a general condition of cleanliness in the factory.
- (b) Provide the workmen with clothing adapted to their work. This should include overalls, jumpers, caps and gloves.
- (c) Provide suitable washing and dressing rooms, supplied with warm water, soap and towels, also bathing facilities and proper lunch rooms.
- (d) Enforce the use of respirators and headgears.
- (e) Provide for the physical examination of the employees both before beginning work and subsequently at stated periods.

In many States these methods have been incorporated into law and placed on the statute book. In Pennsylvania the lead industry is now under legislative control, and throughout the State the requirements of the Lead Poisoning Act have been met by the majority of the factories.

A description of the methods employed to safeguard the health of the employees in the several factories in Pennsylvania is here given.

FACTORY NO. 1.

This is a very extensive plant, consisting of about 30 buildings. The more recently constructed buildings are made of reinforced concrete. One mill which was partially destroyed by fire is undergoing extensive improvements. In this plant are manufactured the following products.

- 1. Lead carbonate by the old Dutch process only.
- 2. Red oxide.
- 3. Dry colors—

Yellow or neutral chromate of lead.

Vermillion or basic chromate of lead.

Green—a mixture of neutral chromate and Prussian blue.

There is also a paint mixing department.

The White Lead Department.—The melting pot is located in a reinforced concrete building. The stack house is in a double building made of reinforced concrete, with convenient passageways around each stack, safeguarded by heavy iron railings. The corroded buckles are dumped into crane buckets provided with a removable hood connected with a portable exhaust fan. When full these buckets

without cover are carried by an electric crane to the dump, which is located up near the roof, and far removed from the workmen. To avoid danger at this point, the crane buckets should be covered while in transit.

From the dump the corroded lead falls into the separating mill, all parts of which are carefully housed and connected by exhausts with the dust collecting house. In the drying room the white lead is removed from the drying pans by hand and conveyed in open barrels to the chaser. These pans will soon be replaced by a textile drying system and an automatic conveyor, which will eliminate all danger at this point. The installation of this system has been delayed because of fire.

The Oxide Mill.—The oxides of lead are manufactured in this plant on a very extensive scale. In the old building are located 25 furnaces. Of this number 21 are of the old type, which are hooded. These hoods remove the dust generated in discharging the furnaces. In this same building are 4 new furnaces, which are discharged mechanically into trucks placed directly in the furnace behind closed doors. Air is forced into the furnace room to reduce the temperature. Four additional new mechanical furnaces have been installed in the new building. All furnaces can be used for either the first or second burning. Litharge when introduced into any furnace is charged wet.

All dusty processes in the oxide mill are equipped with an efficient exhaust. The dust collecting system consists of large canvas bags suspended from hole in the ceiling. These bags are easy of access for cleaning and repair. They empty into a hopper from which the dust is automatically carried up a screw conveyor to the packing department. This department is unusually free from dust.

The Dry Color Department.—The different colors are made in a watery solution in large wooden vats, and heated by steam. They are then precipitated from the watery solution and washed in clean water. The precipitate is then run through filter presses and formed into cakes, which are dried in the drying room. The dry cakes are dumped into barrels and taken to the mixing room. In this room layers of different colors are spread on the floor on top of each other and mixed by turning over the layers with a shovel. Overhead is a hood with a very strong exhaust. The men must stand under this hood to mix the colors, because being very heavy, which is a characteristic of lead salts, they can be handled only at short range. The exhaust creates a dusty atmosphere in which the men must work, and they complain of it. It is believed no exhaust would be safer for the men under these conditions. This point merits further consideration.

This extensive plant throughout its different departments is well equipped with devices aiming to safeguard the health and increase the efficiency of the workmen. A general condition and neatness and cleanliness prevails. These conditions are fostered by prizes in the shape of money, which are given to the foremen.

The Welfare Department.—This department is splendidly equipped in every detail, and is housed in two divisions in reinforced concrete buildings, one of which has just been completed. The toilets and urinals are the latest design. Wash sinks and shower baths are conveniently arranged and properly equipped for washing and bathing. Double steel lockers are provided for each man; one for the street clothes, which contains a supply of towels, comb and a stool, and the other for working clothes, which contains overalls and a respirator. All the overalls are washed in the company's laundry. They are distributed daily in sections to the men.

The lunch room is a large, well-lighted room over the dressing rooms. It contains chairs, tables, spittoons, a wash sink, drinking fountains and a Victrola. The dressing, wash and lunch rooms are kept neat and clean.

An office is provided for the company's doctor, who visits this office twice a week. All new employees are examined on admission to the plant, and re-examined every four months. A general inspection of the men throughout the plant is made once a month, and those employed in dusty processes are examined once a week. Records of these examinations are made and filed in the doctor's office.

FACTORY NO. 2.

This is a very old plant, and the buildings are built of stone. It includes a white lead mill and an oxide factory.

White Lead Department.—The melting pot is separately housed and well hooded. The blue buckles are carried on a narrow railway to the stack yard, preparatory to setting the stack. When the stack is being discharged the corroded buckles are dumped into open boxes and these boxes when full are lowered by hand power and emptied in large open trucks. This is a dangerous procedure, as no precautions are taken to control the dust. The workmen wear respirators and gloves.

The large truck filled with the corroded contents of the stack is then conveyed on the narrow railway through the yard up an incline plane to the dump. White lead dust is very liable to arise on this journey from the stack to the dump, and places the workmen in jeopardy.

Over the dump is built a house large enough to receive the truck and its contents, and is supplied with an exhauster. In this house the truck is placed over the dump hopper, and the doors closed. The truck is then dumped and the contents fall into the separator. All parts of the machinery from the separator to the drying pans, in which the dusty processes occur, are covered and connected by an exhaust to the dust collecting system.

The drying room is a very dangerous place, because no provision is made to eliminate the danger from dust. This room contains large copper drying pans arranged in a single tier, in which is dumped the contents of the separating tanks. Here the lead dries to bone dryness. To bring this about the room is kept very hot and the windows closed. When a pan is to be emptied the windows are opened and the exhaust fan at the end of the room put into action. Then the workmen shovel the dry white lead into open barrels. When filled these barrels, still uncovered, are conveyed by hand trucks to the oil mixer or the pulverizer, both of which are adequately housed and afford protection from dust.

The Oxide Factory.—In this part of the plant the furnaces are not hooded, but have within a fairly strong draft. This, however, does not eliminate the possibility of dust arising at the furnace opening when discharging the contents of the oven.

The Welfare Department.—The washing and dressing rooms are combined in one, and are supplied with lockers, wash basins and shower baths. The urinals and water-closets are in a separate room. Adjacent to this room is the lunch room. Milk is furnished the workmen, and also soap, towels, respirators and overalls. This whole department is dirty and unkept, and uninviting.

The workmen are examined once a week by the company's physician in a room set aside for the purpose. Records of this work are made and filed by the doctor.

FACTORY NO. 3.

This plant is an old establishment, consisting of a group of buildings both old and new. The newest buildings are made of reinforced concrete. Extensive improvements, in the old buildings are being made.

The White Lead Department.—White lead is here manufactured both by the old Dutch process and the Carter process. In both processes all parts of machinery wherein resides dust hazard are carefully housed, and connected by an efficient exhauster, with an elaborate dust collecting system.

The Oxide Mill.—Red lead is here made by a special trade process, details of which it is not permissible to publish. The general condition of the mill, however, is one of cleanliness.

The Welfare Department.—The physical welfare of the men is conducted in the infirmary, under the supervision of two physicians who are on duty at stated hours every working day. New employees are examined as soon as possible after beginning work. The men who are engaged in dusty work are examined once a week; the rest of the men once a month. All cases which show symptoms of extreme lassitude, constipation and loss of appetite are regarded as suspicious, and are transferred to another department. All cases suffering from colic are advised to seek employment outside the lead industry. This affords a close control over plumbism. Extensive records are made and filed by the physicians in charge.

The washing and dressing rooms are adequately equipped with washing and bathing facilities. The lunch room is neat and clean and plenty of milk is supplied to the workmen. This part of the welfare department is located in an old building, and the equipment is somewhat antiquated. This will soon be replaced by an elaborate array of washing, dressing and lunch rooms, which are nearing completion. They will be equipped with every convenience conducive to the health and welfare of the workmen.

FACTORY NO. 4.

This is an old factory building of brick. The oxides only are manufactured here. Litharge is made in a Cupell furnace, which is hooded in front to remove the fumes escaping therefrom. By means of a mechanical run-off the litharge is collected in an iron wheelbarrow placed in front of the furnace. The litharge is then dumped on the floor to cool in front of the crusher. When cool it is fed by shovel into the crusher. This is a dusty process, and there is no exhaust connected therewith to remove the dust. The air separating machine, the cyclone collector and the dust bags are all adequately housed to prevent dust dissemination. The packing is done by shoveling the litharge into barrels from a bin.

The red oxide is made from litharge by heating in a brick furnace located near the centre of the work room, which is not hooded. Hand raking is done with a hoe, and the contents of the furnace are removed with a shovel or by raking into open trucks.

At the grinding machine and at the packer no provision is made to prevent dust reaching the workmen. There is considerable dust about the work room. An efficient exhaust system is needed. Plans for the installation of such a system are being drawn up by the company.

The Welfare Department.—Suitable and adequate provision has been made in this department for the welfare of the men. The dressing, washing and lunch rooms are arranged in the order given and are entirely separated from the rest of the plant, access to which

is by two doors. The dressing room contains a double row of steel lockers. One row contains the street clothes, and the other row the work clothes and a cake of soap. Two towels are given to each workmen. These are kept in the locker with the street clothes. A pair of overalls, a jumper, and also a respirator are kept in the locker with the working clothes. Drinking fountains are distributed about the plant.

The wash room contains two urinals, two toilets, eight enamel wash basins and three shower baths. Wooden runways and floor gratings are also supplied. Time allowance at the company's expense is allotted and bath records made. The lunch room adjoins the wash room, and is provided with a long dining table and chairs. All these rooms are clean, light and cheerful.

The medical examination consists of periodic inspections once a week by the company's doctor. All suspicious-looking cases receive subsequently a careful examination. The records of the examinations are filed in the office of the company. Printed instructions for the workmen are posted in conspicuous places.

FACTORY NO. 5.

This is an old plant, consisting of five buildings and employs about 75 men. White lead only is made in this factory, by the old Dutch process. The melting pot is adequately hooded, and is located at one end of the stack house, which is a building of reinforced concrete, and contains 60 stacks. When unloading a stack the workmen dump the corroded buckles, which are more or less dusty, into hooded crane buckets, connected with an exhaust fan. All the men wore respirators. Two of the men had removed their gloves.

From the stack the corroded buckles are carried by electric crane to the dump hopper, and dumped into a screw conveyor, which carries the contents of the hopper into the separator. At the dump the crane bucket does not fit snugly into the hopper, neither is there a suitable exhaust; hence, considerable dust escapes into the surrounding atmosphere and settles on the floor and adjacent walls.

All other parts of machinery where dust is generated are carefully housed and connected by exhausts with an efficient dust collecting system. From the carbonate hoppers to the drying pans, the process is conducted in water. The drying pans are located in the separating room, and are arranged in tiers entirely housed in. From the drying pans the white lead is carried by screw conveyors to the dry bin or to the oil mixer. Packing is done under a hooded packer. The white lead is fed mechanically into the chaser, which is entirely enclosed with a glass front for observation.

The Welfare Department.—This department is excellently equipped, neat and clean. A safety committee, composed of foreman and superintendent, look after the interests of the workmen. Printed instructions in different languages are posted in conspicuous places. The welfare building is built of reinforced concrete.

In the wash room are 48 vitrolite bowls, 7 toilets, 4 urinals and 8 shower baths, neatly screened from the main wash room. Hot water is supplied by an instantaneous heater. Wooden runways and gratings lie on the floor in proper position.

The dressing room is supplied with two sets of steel lockers, one for street clothes, the other for the working clothes, and are widely separated from each other. A piece of soap, a nail brush and a respirator are supplied to each man. Every week two wash towels one bath towel and one set of overalls are given each man. A janitor has charge of this department.

The lunch room is located on the floor below the washing and dressing rooms. It is roomy, light and cheerful. Leading there from is a large open veranda or lounging pavilion. Drinking fountains are placed in conspicuous places around the plant.

The company's physician makes a weekly inspection of all employees, and refers all suspicious-looking cases to his office for further examination and treatment.

The records of the baths and of the examining physician are kept in the company's office.

STATE WORKMEN'S COMPENSATION BOARD.

MEMBERS OF THE BOARD.

Harry A. Mackey, Chairman,	James W. Leech,
John A. Scott,	John Price Jackson, Ex-Officio.

Francis Shunk Brown, Attorney-General, Counsel Ex-Officio,	H. C. Hubler, Associate Counsel,
Francis H. Bohlen, Counsel.	Samuel I. Spyker, Associate Counsel,
	Lee Solomon, Secretary.

The ten Referees who are assigned to the eight Workmen's Compensation Districts into which the Commonwealth has been divided, for the administration of the Act, are as follows:

W. B. Scott, attorney at law, 606 W. Lehigh Ave., Philadelphia.
Jacob Snyder, boiler inspector, Roaring Springs, Blair County.
L. E. Christley, attorney at law, Butler.
Paul Houck, clerk to county commissioners of Schuylkill, and former legislator, Shenandoah.
Thomas J. Dunn, safety expert and liability adjuster, Pittsburgh.
W. W. Champion, attorney at law, Williamsport.
George C. Klauder, Bala, Montgomery County.
George W. Beemer, attorney at law, Scranton.
E. K. Saylor, superintendent water works and former factory inspector, Lancaster.
Charles H. Young, attorney at law, New Castle.

WHAT AN EMPLOYER SHOULD DO AFTER AN ACCIDENT.

The State Workmen's Compensation Board has issued the ten following helpful suggestions to guide employers to meet the provisions of the Workmen's Compensation Act after an accident.

1. As soon as an accident occurs the employer should immediately furnish to the injured employee such medical or surgical attendance as the case may require.

2. Ascertain all the facts and fill out the accident report furnished by the Department of Labor and Industry. It will not be necessary to designate the persons dependent upon an injured employe unless the accident results in death.

3. Ascertain the average weekly earnings of the injured or deceased employe.

4. Consult Sections 306 and 307 of the Workmen's Compensation Act for the amount of compensation and the length of time during which it must be paid.

5. If the disability of an injured employe is of more than two weeks' duration, or if death follows the injury, an effort should be made on or after the 14th day following the accident to effect an agreement between the injured employee, or the dependents of the deceased employee, and the employer.

6. Compensation under the agreement must begin the first week after the 14th day following the accident and should continue as provided for in the agreement.

7. A receipt should be taken for all payments on form W-51.

8. Should the employer or injured employee or dependents agree upon the facts but fail to agree as to compensation payable, the matter should be submitted to the Workmen's Compensation Board, as provided for in Section 412 of the Act on forms Nos. W-18 and W-19, which can be obtained from the Workmen's Compensation Bureau, Department of Labor and Industry, Harrisburg, Pa.

9. Should the employer and the injured employee or dependent fail to agree upon the facts, the employer should await the filing of a Claim Petition by his injured employee. The employer should then answer the petition as the case may warrant.

10. The Workmen's Compensation Referees stand ready at all times to give you advice and assistance.

RULINGS OF THE STATE WORKMEN'S COMPENSATION BOARD.

Rulings made by the State Workmen's Compensation Board set forth in effect the following conditions:

That all State, County, City, Borough, Township, School, District, and all other governmental authorities created by the laws of this Commonwealth, and having the right to levy taxes shall be exempt from insuring their compensation liability, upon application to the Workmen's Compensation Board.

Note:—Under the Act, none of the above governmental units may reject Article III of the Act which provides compensation to injured employes.

That all information given by persons, companies, or corporations applying for exemption from insuring shall be considered as strictly confidential. That no information contained in such applications shall be given out by any employees or attaches of the office, and such information cannot be used for purposes of taxation.

That all persons appointed by and on the payrolls of a State, County, City, Borough, School District, Township, and all other governmental authorities created by the laws of this Commonwealth, are employees of such governmental units for the purpose of compensation.

That the ordinary private chauffeur, while acting as such, is engaged in domestic service within the meaning of the law, and is therefore, not covered by the Workmen's Compensation Act of 1915.

That Charitable Corporations, colleges, hospitals, etc., being corporations not for profit are employers within meaning of the Act, and that if they do not give to their employes the notices provided in Section 302, they will be liable for compensation under Article III.

The Board declined to give a ruling as to the liability (under Article II) of a charitable corporation which rejects payment of compensation (under Article III), as this question is one for the determination of the courts and not the Board.

THE WORKMEN'S COMPENSATION ACT WILL NOT CAUSE DISCRIMINATION AGAINST MARRIED MEN.

The argument that the State Workmen's Compensation Act would tend to keep from employment married men with families has been vigorously refuted by James W. Leech, member of the Workmen's Compensation Board, in a recent address before the Chamber of Commerce, Johnstown, Pa.

Mr. Leech quoted John Mitchell, former President of the United Mine Workers of America and now chairman of the Industrial Commission of New York State, in proving that the Workmen's Compensation Law in New York State has not resulted in any discrimination against married men, regardless of the number of their children.

"While certain interests are circulating statements throughout Pennsylvania that the provisions of the Workmen's Compensation Act, requiring greater compensation to be paid to families of married

men killed at work than is necessary in the case of single men, will keep married men out of employment, those statements are without foundation and apparently are made to influence public opinion against the Act," declared Mr. Leech.

"I was told by Mr. Mitchell in New York just a short time ago that married men in New York State have suffered absolutely no ill effects from the enforcement of the New York Act. He asked me at that time if I imagined for an instant that the public would tolerate such needless discrimination because a man had assumed the responsibility of being the head of a family. He assured me that if such discrimination should develop in New York State that the outcry by the general public and the working men themselves against such discrimination would be tremendous.

"Why should there be any discrimination against the married man? The State Insurance Fund, which will offer compensation insurance at 10 per cent. below the rates charged by stock companies and will afford complete security, will insure married employes at the same rate as is charged for single men. The approved insurance rates for all companies show no discrimination against married employes. The cost of insurance to an employer is the same whether employees are married or single.

"Every employer will tell you that a married man is less liable to accident than a single man. A married employee is more careful, is less liable to show indifference to danger and is more regular in his employment.

"Although speaking as a single member of the Workmen's Compensation Board of the State I feel confident that the other members of the Board hold views similar to mine and that the married men in employment may be assured that the Workmen's Compensation Board of Pennsylvania will make every effort to protect them."

FACTS REGARDING PENNSYLVANIA INDUSTRIES DURING 1914.

The total market value of products of 20,571 Pennsylvania Industries in 1914 was \$3,245,857,000. Capital invested in these industries was \$2,340,933,300. The total amount of wages and salaries paid by these industries during 1914 was \$685,412,700. Reports were received from 7,548 more industries in 1914 than in 1913.

These statistics were collected and compiled in the Bureau of Statistics and Information of the Department of Labor and Industry.

Pennsylvania industrial establishments, reporting during 1914, gave employment to 1,066,486 persons. Of that number 775,932 were Americans, 276,339 were foreigners and 14,215 were negroes. The division by sexes was 850,187 males and 216,299 females. Included in the total number of employees were 12,192 males under sixteen years of age and 14,187 females under sixteen years of age. The number of salaried men and office workers was reported as 106,108.

Analysis of the total amount paid in wages during 1914 shows that males received \$612,753,600 while females received \$72,669,100. Males under sixteen received \$2,723,200; females under sixteen received \$2,719,500.

The amount paid salaried men and office workers was \$128,111,700, wages paid all other employees aggregated \$557,311,000. The average daily wage paid only to wage earners was \$2.07.

Americans comprised 72.7 per centum of the total number of employees: foreigners 25.9 per centum; negroes 1.4 per centum; females under sixteen 1.3 per centum; males under sixteen, 1.1 per centum.

These statistics, and all other data collected by the Bureau of Statistics and Information concerning the industries of Pennsylvania, will be published in an annual production report in a more elaborate form for 1914 than has heretofore been the custom.

In addition to giving the totals by industries, there will be tables showing the production by counties. These county figures will give the number of establishments by industries in each county with the total number of employees in each industry.

ACTIVITIES OF THE STATE EMPLOYMENT BUREAU.

The employment Bureau of the Department of Labor and Industry is now engaged in the work of bringing together the employer without employees and the worker without employment. The central office and clearing house of the Bureau is located in the Masonic Temple at Harrisburg, Pa. A branch agency of the Bureau is located at 1519 Arch Street, Philadelphia. Another branch agency is located in the Hannan Building, Johnstown. Other agencies are soon to be established in various industrial centers of the State.

Unusually heavy demands for work and workers are pouring into the central office of the Bureau, as well as the branch offices.

An example of the great demand for farm laborers is furnished by a letter received at the Bureau from the proprietors of a large fruit and stock farm in central Pennsylvania. They wrote: "We want a married man not over 45 years of age, preferably one experienced in farming. We will pay \$25.00 per month the first year, give free house rent, garden, truck patch, twenty-five bushels of potatoes, fatten two hogs and give the use of a milk cow."

The rush of war orders has caused great demand for workers in steel plants and many of these demands have been met through the Departmental Bureau.

During the first two weeks following the establishment of the Bureau applications for work came principally from men and women seeking clerical or similar indoor employment. A number of women sought work in their own homes, crocheting, sewing or letter writing. Many laborers and skilled mechanics filed their applications for work and were immediately notified where they could obtain employment.

The first application for a job came from an unemployed waiter, who wrote "that any sort of work" would be satisfactory. He stated as his preference, a position as janitor and added, that considerable experience in amateur photography might qualify him for work in some photographic studio.

One man sought information regarding opportunities for work in Colorado, Canada or Alaska. He was notified that his request was turned over to the Federal Employment Bureau, as the State Department Bureau concentrates its activities within the limits of Pennsylvania.

A "Safety Engineer" who has specialized for twelve years in the installation of safety devices in manufacturing plants applied for a permanent position with any big industrial concern.

The same mail that brought a letter from a consulting engineer and sales manager, who desired a position at a salary of \$7,500 a year, brought also an application "for any sort of work" from a young negro, who is earning \$20.00 a month as a club attendant.

From a man, with a wife and six children, who declared himself "sober and not profane" came a request for work as a machinist. A gas meter repairer wanted employment. A business school graduate wanted clerical work for \$15.00 a week. A grocery salesman or manager sought a position. A foreman of road workers or time-keeper wanted a place with a contracting firm.

Other applications for employment included night-watchmen, teamsters, trolley motormen, clerks and stenographers, both men and women.

Every request for employment and employees is complied in the Employment Bureau and printed forms are sent to every applicant that the definite qualifications of each unemployed worker as well as the character of each position for which employers seek employees, may be definitely established.

ATTORNEY GENERAL BROWN GIVES RULING ON EMPLOYMENT CERTIFICATES FOR CHILD WORKERS.

Attorney General Brown has decided that employment certificates issued to children before January 1, 1916, will be valid until the holders become sixteen year of age. He holds, however, that after January 1, these children must attend continuation schools for eight hours a week, and cannot be employed more than nine hours a day, fifty-one hours a week. This decision was given in response to a request from Commissioner John Price Jackson of the Department of Labor and Industry.

Active preparations for meeting the requirements of this new law are under way in Philadelphia, Pittsburgh, Scranton, Wilkes-Barre, Pottstown, Altoona, Harrisburg, Allentown, Easton, Mauch Chunk, Pottsville and other cities throughout the Commonwealth.

The State Board of Education has issued a pamphlet of instruction concerning the Child Labor Act and continuation schools. This pamphlet is being sent to every employer in Pennsylvania and to the authorities in every school district. It sets forth fully, the requirements of the new law. It also gives the standards of physical fitness for the guidance of physicians in examining minors who apply for employment certificates after January 1st.

GOVERNOR BRUMBAUGH DISCUSSES CONTINUATION SCHOOLS.

Governor Brumbaugh has issued the following statement regarding the establishment of continuation schools throughout Pennsylvania under the Child Labor Act which is effective January 1, 1916.

"Reports made to me by the State Departments of Public Instruction and Labor and Industry, which are co-operating to obtain the establishment of continuation schools, indicate that at least three-quarters of the children now working in this State will be provided with continuation school facilities.

"In every industrial community in this State active steps have been taken to establish continuation classes. Every boy or girl under sixteen years of age, employed after January 1st, must attend one of these classes at least eight hours a week.

"I am especially pleased with the attitude which employers of children generally have assumed. I am informed that wherever the school men have gone to places of business personally and talked with employers, explaining to them the benefits which would accrue both to them and to their young employees under this Child Labor Law, that they have expressed a willingness to meet all its provisions. In fact, some firms which had expressed themselves as opposed to the new law, have agreed to furnish space in their establishments for conducting continuation classes, and a few have even agreed to pay the teachers.

"I am particularly pleased with the manner in which the situation has been handled in Philadelphia. Four distinct steps have been taken by the Board of Education in that City.

"In the first place, an associate superintendent of schools was elected, whose duty it is to arrange for the establishment of continuation schools.

"Next, the Bureau of Compulsory Education was re-organized. Ten branch offices have been established throughout the city for the issuance of employment certificates, the physical examination of children, and as headquarters for the Compulsory Attendance Officers. In addition to this, these branch offices will also do work along the line of vocational guidance by endeavoring to find places for children desiring to work, and of finding employees for firms desiring to hire children under sixteen.

"Third, the Board has under consideration the salary schedule for teachers in the continuation classes. It is the intention to pay teachers in these classes from one to two hundred dollars more a year than will be paid to the regular grade teachers.

"Fourth, the Board has adopted a general policy of endeavoring to open as rapidly as possible, after January 1st continuation classes for all those receiving employment certificates and entering upon employment at that time, and all the additional classes needed in the regions where the number of children now employed is greatest. In addition, as rapidly as possible the schools already established in business and industrial plants will be taken over by the Board.

"The Philadelphia Board expects to employ at least one hundred teachers in 1916, and I am sure that January will see at least seventy-five per cent. of the working children under sixteen in that city, attending continuation classes.

"In Pittsburgh a complete canvass of the city has been made to ascertain the number of children in employment. Provision has been made for the establishment of schools or classes in various sections of that city. I would not be surprised to see every working child in Pittsburgh attending continuation classes with the beginning of the new year.

"In Bethlehem the high school will be used to house the continuation classes. The regular classes adjourn early and the continuation classes will have full use of the school building from three to five every afternoon.

"The school authorities of Reading are at present interviewing manufacturers on the subject of organizing continuation school. Dr. Foos, Superintendent of Schools, reports that in all these interviews he has been cordially received and that the outlook for the success of the schools seems very encouraging.

"Complete arrangements for the establishment of continuation classes are also being made in Scranton, Wilkes-Barre, Allentown, Johnstown, Altoona, Lebanon, Easton, Beaver Falls, Mauch Chunk, Harrisburg, Williamsport, York, and many smaller communities.

"The fact that schools may be conducted eight hours on one day, or four hours on two days, or two hours on four days, and that almost any seventh and eighth grade teacher will be able to give the instruction required, has done much to facilitate the establishment of these schools.

"I am indeed grateful for the splendid spirit of co-operation which has been shown both by the school men and employers of children in their efforts to raise the standard of citizenship in our glorious Commonwealth."

INDUSTRIAL BOARD RULES AGAINST "SLEEPING HOURS" IN TELEPHONE EXCHANGES.

The Industrial Board of the Department of Labor and Industry has disallowed a petition from the Eastern and Western Independent Telephone Associations of Pennsylvania asking that hours of women

operators between 11:30 at night and 5:30 in the morning be known as "sleeping hours" in exchanges where not more than six calls are made during that period.

The Associations stated in their petition that comfortable sleeping quarters would be provided women operators in the telephone exchanges where continuous service is furnished but where the average number of calls between the hours designated does not exceed six. They requested that such "Sleeping hours" should not be considered a part of the regular working hours. The petition further stated that in no event shall female telephone operators be employed or permitted to work in or at a telephone exchange for more than fifty-four hours in any one week.

In refusing to grant the petition the Industrial Board declared:

"A change in these particulars in the interpretation of the Women's Labor Act, is not of general necessity to the telephone companies of the State employing operators in similar night work and performing similar service to the community.

"The Women's Labor Act was enacted for the benefit of women in industry, therefore, any change in its interpretation must be clearly shown to be at least no detriment to the women affected.

"An inquiry among the telephone operators affected, would indicate that the change as requested would be, as far as now can be ascertained to their detriment."

APPRECIATION OF COURTESIES AND CO-OPERATION OF PENNSYLVANIA FAIR ASSOCIATIONS.

The Traveling Safety Exhibit, during the past fall, was sent to various fairs throughout the State. The Department wishes to acknowledge and thank the Fair Associations in this way for their kind and courteous treatment and for the courtesies which were extended to the Department representatives during the time the exhibit was on the various fair grounds.

Through the co-operation of the Engineering Department of the Pennsylvania State College, it was possible to present an exhibit which was considerably larger and apparently far more interesting than that which had been given during the fall of 1914. The Workmen's Compensation Law, going into effect on the first of the year.

has given an added interest to every thing which increases safety and accordingly greater interest was shown in the exhibit this fall, as was evidenced by many questions and inquiries.

The various fair associations which co-operated by giving the exhibit space in their buildings and the dates that the fairs were held are as follows:

Middletown Fair Association, Middletown, August 24th to 27th.

Warren County Agricultural Association, Warren, August 31st to September 3d.

Oil Creek Fair Association, Titusville, September 7th to 10th.

Mercer Central Agricultural Society, Mercer, September 14th to 17th.

Lehigh County Agricultural Society, Allentown, September 21st to 24th.

Milton Fair and Northumberland County Agricultural Association, Milton, September 28th to October 1st.

Bedford County Agricultural Society, Bedford, October 5th to 8th.

Perry County Agricultural Society, Newport, October 12th to 15th.

Greater Reading Fair, Reading, October 12th to 15th.



Vol. 2

No. 12

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OF THE

PENNSYLVANIA

Department of Labor and Industry

JOHN PRICE JACKSON, Commissioner



A BULLETIN OF INFORMATION FOR THE PUBLIC

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PERSONNEL OF THE DEPARTMENT OF LABOR AND INDUSTRY.

The Commissioner, who has charge and direction of the Department, is John Price Jackson.

The Industrial Board consists of:

John P. Wood, Philadelphia; Mrs. Samuel Semple, Titusville; James C. Cronin, Philadelphia; Otto T. Mallery, Philadelphia; John Price Jackson, Chairman, and William Lauder, Riddlesburg, Secretary of the Board.

The Chief of the Bureau of Inspection is Lew R. Palmer, who is assisted by the members of the Division of Industrial Hygiene given below: W. H. Blakeslee, Medical Inspector; Elizabeth B. Bricker, Medical Inspector; Jacob Lightner, Francis Feehan, J. J. Coffey, and J. P. Quinn, Supervising Inspectors; district inspectors; etc.

The Division of Industrial Hygiene and Engineering consists of John H. Walker, Civil Engineer and fire prevention expert; Richard M. Pennock, Mechanical Engineer and expert in heating and ventilation; John S. Spicer, Chemical Engineer. The Commissioner and Chief Inspector are members ex officio of this Board.

The Chief of the Bureau of Statistics and Information, Paul N. Furman, is assisted by Wilson I. Fleming, Assistant Chief; W. H. Horner, Statistician; Collectors of Statistics, clerks, etc.,

The Chief of the Bureau of Arbitration and Mediation is Patrick Gilday.

The Attorney of the Department is Richard W. Williamson, assisted by Howard Benton Lewis.

James A. Steese is Chief Clerk and has associated with him bookkeepers and stenographers.

Publications are under the general direction of S. S. Riddle, Editor.

POPULAR APPEALS TO SAFEGUARD WORKERS.

About one year ago the Division of Industrial Hygiene and Engineering of the Department of Labor and Industry published two leaflets regarding accidents and disease in the factory. The first one was entitled "Timely Hints to Prevent Industrial Accidents and Disease." The demand for these leaflets soon exhausted the edition. Feeling that the publication of such literature has met a need for educational matter of this type, the Department has decided to republish these two leaflets and also a series of additional ones which will apply to workers in various trade processes or classes of industry.

Investigations throughout the State have revealed the fact that too many persons are not familiar with the dangers and hazards which pertain to their respective classes of work. For instance, while painters may have heard of the disease "Lead Poisoning," yet they have not thought of it as having any connection with their work on account of the fact that they have not had its importance to themselves impressed upon them, either by contracting the disease themselves or seeing its symptoms in their fellow workers. The possibility, however, of this disease being contracted by anyone using paints shows the necessity for the hazards connected with the handling of this material being understood by all painters. When it is appreciated that the serious and far-reaching effects of this disease may be entirely eliminated by simple precautions, the present large number of cases in the painter's trade will automatically be reduced.

In many other trades, workmen are as unconsciously subjected, in the same degree, to the danger of accident or disease as are painters to lead poisoning. Many workmen in the course of their daily occupations perform their work in such a manner that they expose themselves or their fellow workmen to absolutely avoidable dangers. By far the greater number of the thirty-eight thousand accidents reported to the Department of Labor and Industry last year were caused by just such thoughtlessness as this.

Leaflets calling attention to some of these dangerous practices and conditions have been prepared. The suggestions contained in these leaflets have been drawn up in as condensed a form as possible in order that they may be readily understood by everyone. Those already published are submitted in the following pages. They are available for free distribution on application to the Department.

Leaflets covering other occupations and hazards are being prepared by the Division of Industrial Hygiene and Engineering and

will be issued from time to time and attention called to them in the pages of this Bulletin. Suggestions for topics which can profitably be treated in these leaflets are requested.

TIMELY HINTS TO EMPLOYER AND EMPLOYEE.

NO. 1.

Accidents and Diseases in the Factory.

FOR THE EMPLOYER.

Accidents and disease impair your workmen's efficiency and increase costs.

Usual routine is interrupted.

A "green" man is necessary or machines stand idle.

Production is lessened.

Quality is reduced.

Action for damages or compensation may result.

Protection to your employes against accidents and disease reduces costs and increases production, therefore

GUARD:

Machinery and dangerous places.

PROVIDE:

Proper drinking water,

Good ventilation,

Sanitary toilets,

Proper light.

Then you will have the increased efficiency, loyalty and co-operation of your employes.

FOR THE EMPLOYEE.

Breathing dusts continually leads to consumption and lung troubles.

The exhaust system provided for dust creating machinery should be used and maintained in operating condition

Impure air lowers your vitality.

Properly regulate and maintain all means used for ventilation and keep toilets in sanitary condition.

Unguarded machinery and dangerous places may mean loss of life and limb.

Guards are installed for your protection.

See that proper use is made of them, not only by yourself but by others.

Accidents and disease mean

Loss of income,

Increase of expense,

Possible total or partial disability,

Impaired health,

Worry,

Untold suffering.

Co-operate and promote all means used for your protection.

Do all in your power to assist in preventing any abuse of that which has been provided for your safety and comfort.

TIMELY HINTS NO. 2.

TO PREVENT INDUSTRIAL ACCIDENTS AND DISEASE.

FATHERS:

Be cautious in your work. Remember the dependent family at home.

MOTHERS:

Caution the working members of your family to be careful.

SISTERS AND DAUGHTERS:

Urge your brothers and fathers to do everything in the safe way

YOUNG MEN:

Careless methods used now may mean total or partial disability to you the rest of your life.

WOMEN WAGE EARNERS:

Dress so as to avoid being caught in machinery. Wear head coverings if there is any possibility of hair being caught in moving parts.

Preserve your health by every means available.

BOYS AND GIRLS:

Learn to do things now in a safe way.

It will be valuable to you as you grow older.

DO YOU KNOW

More than 2 persons are killed
and 125 persons are injured

EVERY DAY IN PENNSYLVANIA.

50 per cent of these accidents are avoidable.

Are YOU doing your work in a safe way?

IT PAYS.

STOP!

LOOK!

LISTEN!

BE CAREFUL!

BE CAUTIOUS!

TIMELY HINTS NO. 3.

FOR ELEVATOR OPERATORS.

It is not Lawful for any Person Under 18 Years of Age to Operate an Elevator.

TO ALL OPERATORS:

Your life and that of others is dependent on your alertness, caution and good judgment.

You cannot run an elevator properly and safely and do something else at the same time.

If elevator appears not to be working properly, do not attempt to run it. Notify management.

Frequently satisfy yourself that cables and mechanism are in safe condition.

TO ALL OPERATORS OF PASSENGER ELEVATORS:

Close all gates before starting car.

Keep people back from front of car when there is no inside gate.

Do not allow people to interfere with control handle.

Your car should not be overloaded beyond allowed number of persons.

TO ALL OPERATORS OF FREIGHT ELEVATORS:

Distribute load equally.

See that nothing projects into shaftway.

Bring car floor level with landing floor.

Lock elevator before loading or unloading.

Gates should always be closed when elevator is not in use.

Horse play is inexcusable on or near elevators.

Loads on wheels should be blocked to prevent shifting.

ALL THE SUGGESTIONS IN THE WORLD WILL NOT
PREVENT ACCIDENTS UNLESS YOU ARE CAREFUL.

90% of ELEVATOR ACCIDENTS occur at Landings and are due
to CARELESSNESS.

BE CAREFUL AT LANDINGS.

TIMELY HINTS NO. 4.

FOR STEAM BOILER FIREMEN AND ATTENDANTS.

All Steam Boilers must be Inspected and Approved at Least Once a Year by an Approved Boiler Inspector. Certificate of Approval Must be on File at Plant and Copy Sent to Department of Labor & Industry.

An improperly operated Boiler is as dangerous as dynamite.

Continual watchfulness and care are required of every fireman.

Know working pressure allowed for each Boiler by the Inspection Certificate. Never exceed this pressure.

Keep water level constant by feeding water in small quantities at regular intervals.

In case of low water and hot fire, do not draw the fire with a hoe. If it cannot be dumped into the ash pit, cover it with ashes or coal. Stirring up the fire increases the heat given off. Allow Boiler to cool down before starting pump or injector.

Blow-off and all other valves should be opened and closed slowly.

Scale in Boilers causes bulges in and ruptures of Boiler shell—eventually leading to explosions. Remove it by frequent cleaning.

The safety valve is your life preserver. Test it every day to see that it is working properly.

Clean water glasses and pressure gauges are necessary. Never operate a Boiler with defective pressure gauge.

Before entering any Boiler, notify some responsible person of your intention; lock all valves leading to the Boiler with padlocks and keep the keys in your pocket until you have finished work in your Boiler.

If a leak is detected, notify management.

On a cold Boiler, start firing slowly.

At the beginning and end of each turn, test safety valves and water gauges and see that water is at proper level.

A careful fireman plus a clean Boiler-room equals safe operation.

*Your own Personal Safety and That of Your Fellow
Workmen in Your Vicinity Depends on Your Care and
Vigilance.*

YOU HAVE A DOUBLE RESPONSIBILITY.

BOILER EXPLOSIONS HAVE BEEN CAUSED BY:

BLOCKED SAFETY VALVES

CORRODED PLATES

SCALE

LOW WATER

RAPID OPENING OF LARGE STEAM VALVES

DISREGARD OF INSPECTOR'S RECOMMENDATIONS

EXCEEDING ALLOWED PRESSURE

Last year, in the United States, there were 467 Boiler explosions which killed 148 and injured 315 persons.

TIMELY HINTS NO. 5.

FOR EMPLOYEES IN MERCANTILE ESTABLISHMENTS.

Your Health is Your Greatest Asset, Protect It By:

PLENTY OF FRESH AIR—Without it you feel dull and languid and become more susceptible to colds; if you can't regulate the ventilating system yourself, demand that it be regulated by those in charge.

PROPER REST—Constant work wears out the body. Well placed and well used rest periods rebuild the system. Use the time you are off duty for rest or exercise.

REST PLACES—Take your rest in the open air or in well kept rest rooms. Well kept means well ventilated, clean and tidy. See that you use such places as you use your own home, insist on your neighbor doing likewise.

TOILET ROOMS—Unclean toilet rooms spread disease. Do not allow your health to be endangered thereby.

BE PROMPT—Your tardiness imposes extra work on a fellow employee. It disorganizes the system of the establishment.

BE COURTEOUS—You will have contented customers and both you and your employer will be benefited.

BE NEAT—Orderly arrangement of stock and clean and tidy personal appearance please your patrons and add to your own self respect.

ESCAPE FROM FIRE—Know the location of all fire exits. They must be kept unobstructed. You are the one whose life will be saved by knowing how to use them. Get this information now. It will be too late when the fire has started.

**CO-OPERATION BETWEEN EMPLOYER AND EMPLOYEE
MEANS SUCCESS FOR BOTH.**

TIMELY HINTS NO. 6.

FOR PAINTERS.

LEAD.

Every person working with lead paint is in danger of contracting lead poisoning.

The symptoms of mild lead poisoning are:

Colic.

Constipation.

Blue line along the tooth margin of the gums.

Foul breath.

Loss of strength in wrists or hands.

Loss of appetite, especially for breakfast.

Continuing at work after the onset of these symptoms is apt to produce:

Complete paralysis of arms and legs.

Disease of the heart, blood vessels and kidneys.

Premature old age.

Insanity.

Death.

Lead enters the system most frequently as dust. The more dry sandpapering there is the more dust there will be. Most of it is absorbed from the stomach but some also from the lungs and skin. Dust is carried to the stomach through the mouth by:

Unwashed hands.

Hands which after being washed have touched dirty clothes, or taken dusty wrappings from lunches.

Food exposed in the workroom or carried in the pockets of the workers.

Food touching lips that have not been thoroughly washed.

Beards and mustaches increase this danger as they catch the lead dust readily, are hard to keep clean and are almost sure to touch the food as it passes into the mouth.

Prevent lead poisoning by:

Moist sandpapering whenever possible.

Using respirator if dry sandpapering must be done.

Washing hands and face thoroughly before eating.

OTHER POISONS.

Quick drying paints often contain wood alcohol, benzine, turpentine, or other substances which give off poisonous fumes while dry.

ing. These are frequently sold under fancy trade names so that the injurious nature is not easily recognized.

Breathing of the fumes may produce:

Headache.

Dizziness.

Nausea.

Faintness.

Longer exposure to these fumes, especially in closed rooms, bring on more severe symptoms, which vary with the substance used as the drier, but may be:

Blindness.

Paralysis.

Unconsciousness.

Death.

When using quick drying paints, see that the room is well ventilated so that the fumes may be carried away.

PAINT REMOVING.

Poisoning from lead and from dangerous fumes is as common in paint removing as in painting.

Paint removing by the dry method—sand papering, chipping or burning—scatters lead dust through the air. This settles on the workman, his clothes or the floor, and from these places is carried into the body just as in painting.

Liquid paint remover gives off irritating and usually poisonous fumes which affect the person using it in the same way that quick drying paints do.

Personal cleanliness and free ventilation are the workman's protection in both these processes.

Chewing tobacco *does not* prevent lead poisoning as many painters claim. It gives the lead three separate ways of getting into the mouth—from dust settling on the tobacco in the pocket, from the fingers in handling the tobacco, and from the lips over which it passes.

If at any time you do not feel well, or notice any of the symptoms mentioned in this folder, see a physician *at once*, and be sure to tell him you are a painter. It will help in his treatment of your case.

Every case of lead poisoning has back of it either ignorance or carelessness. Can you afford to become an invalid from either of these causes?

Of sixty persons who died from lead poisoning within two years, thirty-seven were painters.

TIMELY HINTS NO. 7.

FOR PRINTERS.

Lengthen Your Life by Guarding Your Health. Learn the Dangers of Your Trade and Then Avoid Them.

POISONS IN PRINTING.

Lead, the main constituent of type metal, is absorbed into the system chiefly from the stomach and in small part from the lungs and possibly from the skin. The dust of the workroom always contains lead in very finely divided form. Unless very great precautions are taken this settles on the floor, the hands or the lips and is in this way carried to the stomach.

Taken into the body, it produces:

Colic.

Constipation.

Paralysis.

Disease of the heart, blood vessels and kidneys.

Insanity.

Death.

Protect yourself from it in every way:

Do not splash metal from your melting pots; it dries, becomes dust and you inhale the lead.

Never hold type in your mouth.

Do not permit dry sweeping of your workroom, or dusting of the benches while you are present. The only safe way of cleaning during working hours is vacuum cleaning.

Do not keep your lunch exposed to the dust of the workroom.

Never touch food or place your fingers in your mouth without first washing your hands thoroughly. A nail file or other instrument for cleaning the nails, a brush, hot water and soap are necessary if the lead is to be removed thoroughly.

Benzine is often used to clean the ink from the rolls of the printing presses. Poisoning from this substance produces:

Faintness.

Dizziness.

Headache.

Vomiting.

This material should be used only in places that are well ventilated. *Aniline Oil* forms a part of some of the mixtures used in cleaning rolls. It is more poisonous than benzine and in addition to the symptoms given under Benzine may, in severe cases cause:

Convulsions.

Death.

Find out whether or not the cleaning mixture contains aniline oil. If it does, use it only in well ventilated rooms. Do not splash any of it on your body, your clothes, or the floor. You may be poisoned by absorbing it through the skin, or by breathing the fumes as the liquid evaporates.

Poisonous Gases are given off by *all* fires. In addition most gas fires do not burn up all the gas but allow some of it to escape into the room. See that all fires have flues in good working order, leading to the outside air, in order to carry away any gases that might injure your health.

TUBERCULOSIS.

Of every 1,000 deaths among printers 292 are caused by tuberculosis. To have this disease you must take the germ into your body. You may get it from the common drinking cup, the common towel, or from your coughing neighbor who spits on the floor. If your employer does not provide individual cups and towels, provide your own. Your health is worth it. Plenty of cuspidors conveniently placed and in a clean shop ought to prevent everybody from spitting on the floor.

INACTIVITY.

Long sitting or standing in one position, especially in rooms without plenty of fresh air, causes poor circulation of the blood. Overcome this by plenty of exercise in the open air after working hours.

LIGHT.

If you can't have daylight for your work, endeavor to have all artificial lights properly placed and shaded so as to keep the glare from your eyes. You need the best light possible to do your work quickly and well. A printer with eyesight ruined is a printer out of a job.

DEATH FROM TUBERCULOSIS OR LEAD POISONING IS ABSOLUTELY UNNECESSARY. IF YOU CONTRACT EITHER OF THESE DISEASES SEE YOUR PHYSICIAN AT ONCE. BOTH ARE CURABLE IF TREATMENT IS BEGUN EARLY AND CAREFULLY CARRIED OUT.

STATE-WIDE EFFORTS TO PREVENT FATALITIES AND PROPERTY LOSS BY FIRES.

Inspectors of the State Department of Labor and Industry have been ordered to take drastic action to prevent the blocking and

structing of fire escapes on factories, tenement houses and public halls.

Inspectors throughout the State have been directed to arrest and prosecute, without delay, persons responsible for blocking exits to fire escapes or for placing obstructions of any kind on steps or landings of fire escapes.

The laws forbidding the blocking of aisles in factories and public halls and the laws requiring fire drills in factories are to be rigidly enforced. Installation of automatic sprinklers and automatic fire alarm systems are advocated by Commissioner Jackson for factories, hotels and other public buildings.

As appeal is made by Commissioner Jackson to every factory employe, occupant of a tenement house, patron of public hall or private citizen to notify the Department of Labor and Industry by letter or in person where a fire escape is blocked or similar laws are violated.

The necessity of protecting with fire-proof material exterior fire escapes where they pass doors or windows is pointed out by the Commissioner. He explains that a fire escape, even though properly constructed, may be useless as a means of escape in time of fire if tongues of flame can shoot from open doors and unprotected windows to prevent safe passage of persons from upper floors.

The recent fire in a Pittsburgh factory, where twelve girls and one man were killed and the fire in Brooklyn, where thirteen girls lost their lives, are cited by Commissioner Jackson as reasons for the adoption of every precaution to protect human lives and especially the lives of women workers in factories.

"While it is true that automatic sprinklers are manufactured by private concerns for profit, their installation in factories and public buildings is more than a commercial proposition. It is a matter of saving lives and property," Commissioner Jackson has stated.

"A comparatively small blaze in a factory is sufficient to melt the fuse attachment of an automatic sprinkling system and the subsequent action of the sprinkler will in most cases prevent conflagrations, keep down the smoke and will prevent the clothing of women workers in factories from getting on fire. Similarly the heat from a small fire in a factory will start in operation the automatic fire alarm system and will bring the firemen and fire fighting apparatus to the burning building without delay.

"The expense of installing sprinkler systems is offset by the reductions which follow in fire insurance cost. The owner of a structure, equipped with automatic sprinklers, saves ultimately by the reduction of his insurance premium. I even understand that some sprinkling concerns will install systems in factories and will take in payment the savings effected in fire insurance cost over a term of years.

"There is, however, no excuse for blocked fire escapes. If a fire escape is to be blocked it might better never have been erected for all the good it will do in time of fire. The inspectors of this department are instructed to make every effort to eliminate such unnecessary hazard.

"It is especially unfortunate that an unthinking proprietor of an establishment may pile packing cases before a fire escape exit or otherwise block the fire escape without the knowledge of an inspector and perhaps even within an hour after the inspector has been there and approved conditions as he found them in that establishment.

"In the same way occupants of tenement houses may pile mattresses, other bed clothing, or even put furniture on fire escape landings during cleaning hours in the morning and the violation may escape the attention of an inspector although a fire occurring during that time would probably result in fatalities.

"These are the reasons why the Department of Labor and Industry must have the cooperation of the workers in all factories as well as the cooperation of the general public in discovering blocked fire escapes, or fire escapes which fail to fulfill the purpose for which they were constructed.

"Every citizen is urged to write or call upon this department giving detailed information of dangerous conditions that in time of fire or panic might cause a loss of lives."

SLOGANS FOR SAFETY.

"GOOD MORNING! MAKE UP YOUR MIND TO PLAY SAFE TODAY!"

That is the greeting which the Midvale Steel Company, of Philadelphia gives to its employes as they enter the various gates to the works of the plant. The words appear on signs that swing above every entrance.

Another placard sets forth the suggestion that:—

"SAFETY SHOULD INTEREST THE WORKMEN MORE THAN THE MANAGEMENT."

The Midvale Company, through its Safety Committee, makes extensive use of placards and signs in the interest of "Safety First" in all sections of its plant as is a custom followed by many large manufacturing concerns.

Every appeal for Safety made by the Midvale management through this "Sign Language" is worded in a manner not only intelligible to the workman but also capable of arousing his interest.

Some of the slogans for safety are original with the Midvale Company others have been borrowed. There is, however, a human appeal and human touch in virtually every one of the printed quotations that encourage the workers to carefulness in every section of this big plant.

A collection of the texts of these signs has been made by the Midvale Company and includes the following suggestions for the workers in the hazardous processes of producing finished steel products.

SAFETY FIRST.

Is an appeal to every employe, whatever may be his occupation.

FOREMEN.

Don't forget that educating the men under you is the best safeguard.

REMEMBER.

All the safeguards that we can devise and install will not prevent you from doing foolish things.

SAFETY FIRST.

Co-operation is the key note.

SAFETY FIRST.

Better to lose a minute to make sure, than lose a week with an injury.

When we all work together for Safety, accidents will be very scarce. There is a safe way to do everything; do it that way.

Are you giving Safety your first thought. If Not, Why Not?

Careful men are usually efficient; careless men are not.

Safety devices will not prevent accidents unless used. Use them.

Defective tools are dangerous; turn them in to the tool room.

The effort for Safety is for your benefit.

Looking out for the other fellow makes it safe for everyone.

All accidents have causes; remove the causes.

Forget that common fallacy that we must have accidents when busy; do your part and they won't happen.

Resolved: Not to take any chance this day.

Individuality counts as well as team work in Accident Prevention. We want your help to prevent accidents—This means *you*.

Don't rely on the other fellow when it is a question of SAFETY. SAFETY—Eventually; why not now?

Think of yourself and the doctor won't have to think of you.

Everyone makes mistakes, some more than others; the efficient man never makes the same mistake twice This rule applies to SAFETY.

Intelligence, caution and carefulness help you in every endeavor.

Personal caution is the means of preventing accidents.

The best safety device known is the careful man.

Preach Safety First, and practice what you preach.

The eye is one of the most valuable organs in the human body. Protect your eyes by wearing goggles.

Your family, your fellow workers and your department are depending on you to avoid accidents.

Constant vigilance is the price of safety.

Habits of care and watchfulness are the best safeguards.

Remember the rule: "When in doubt, take the safe course."

The study of safety is the study of the right way to do things.

The Suggestion Box is open to all; submit your ideas.

Enlist in the Safety movement; every man is needed.

Prevent accidents and promote sanitation, then everybody will benefit.

Accidents are waste; if for no other reason than economy, they must discontinue.

Your eyes are your biggest asset; are you protecting them with goggles.

"First aid to the injured" means nothing to you if you are careful.

Accidents are unnecessary; we don't need them, do you?

Every accident that happens here or elsewhere should be a lesson to you.

Let us all profit by past experience and stop *ALL* accidents.

Small neglects lead to serious accidents.

Defective shoes cause many serious accidents. Keep your shoes in good repair.

Good Morning; don't forget the safety rules today.

Safety affords security from injury; therefore, be safe.

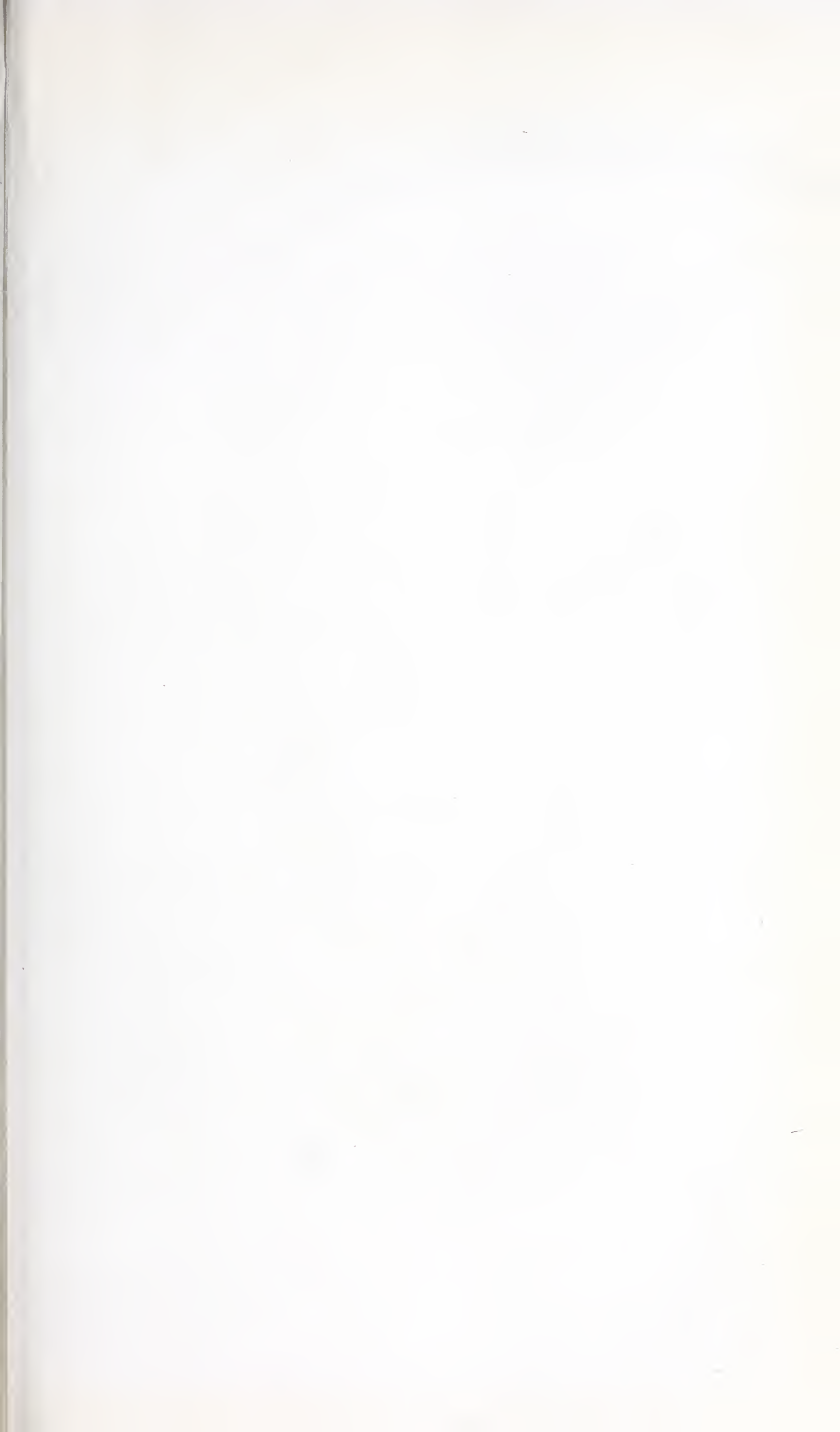
The chance-taker is a menace to himself and fellow-employees.

Caution the careless man; if he repeats, better tell the Safety Committee for your own protection.

Safety means freedom from danger, injury or damage.

Personal caution is the greatest of all safeguards.

The world reserves its best prizes for initiative in doing the right thing without being told.





ENCLOSED DUST HOUSE AND SHAKER.

PROTECTING WORKERS FROM POISONOUS DUST.

The accompanying illustration shows the method employed by Harrison Brothers & Company, Philadelphia, for enclosing their dust collector. This company manufactures a variety of lead products, from which great quantities of poisonous dust are given off in the various processes. In order to remove the dust from the work rooms an effective exhaust system is maintained throughout the plant. The dust from this system is collected in an "Organ pipe" collector.

The features which make this installation particularly of note are:

The complete enclosure of the collector in a brick stack, and

The method of shaking down the tubes from the outside of the enclosure.

Poisonous lead dusts are thus collected without contaminating the work rooms in the neighborhood of the collector, and normally, without the necessity of any workman being exposed to these dusts.

The attention of manufacturers in other lines of work involving dusty processes is called to this installation. It is believed that the enclosure of this class of collectors would be very desirable regardless of whether or not a poisonous dust is being handled.

SELF OILING BEARINGS AS FACTORS FOR SAFETY.

The Industrial Board of the Department of Labor and Industry has in its safety standards of power transmission machinery recommended an effective system of self oiling for all bearings, and has forbidden the oiling of shafting by hand while it is in operation.

The object of the Industrial Board is to discourage as far as possible the dangerous practice of having an oiler go over the shafting at frequent intervals. Shafting is nearly always located overhead so that the bearings must be reached from either a platform or ladder. They are frequently in dark and inaccessible positions so that the oiler cannot properly gauge the danger to which he is subjected. In many cases a slip on the part of the oiler himself or his ladder will throw him against a nearby pulley or upon the revolving shaft. The result is almost certain death. Loose clothing may be caught up with equally fatal results.

Self oiling bearings, if properly installed, need but infrequent attention, and can be taken care of at the convenience of the management when the shafting is shut down for other reasons. They therefore remove this hazard absolutely.

From the operating standpoint as distinct from the distinctly safety view self oiling bearings are an advantage. While the first cost is somewhat greater, lessened maintenance in the decreased oil consumption and attendance usually more than offset this feature, and a saving is effected.

The Industrial Board regulations on this point are in line with both safe and economical operation and should receive the careful attention of all factory managers.

KEEP THE WASH ROOMS CLEAN.

Complaints have reached this Department from time to time from manufacturers who claim that after they have installed sanitary appliances, the employees make no effort to take care of these appliances or the rooms in which they are located. In some instances, complaints were to the effect that these rooms and appliances were subjected to abuse and maltreatment.

It has been found, in some cases, that this complaint is a just one but in other cases, it is found that no attention is given by the management to keeping these places clean and in a sanitary condition.

Naturally in any large body of persons there are always a few who have no regard for the rights and welfare of other people but simply think only of themselves and make no pretense of taking care of any property which is not their own. For such persons summary discipline is the only remedy but it is believed that thoughtless or careless people can be reached in other ways.

With an idea of trying to reach the thoughtless the Division of Industrial Hygiene and Engineering of the Department of Labor and Industry has prepared a card of convenient size which can be placed in all wash rooms and toilet rooms. These can be obtained free in any quantity by addressing the Department at Harrisburg.

The material which appears on the card is as follows:

These conveniences have been installed for your use, not for your abuse.

Use basins freely but leave them empty and clean.

Flush toilets thoroughly after using.

Never throw rubbish into toilets. Put it in the places provided for that purpose.

With proper use, plumbing takes care of itself.

Careless use of these conveniences causes you discomfort and endangers your health.

Do not allow the indifference of yourself or others to menace your health. Report any misuse of these accommodations to the proper authority at once.

THE STATE BUREAU OF EMPLOYMENT.

For a long time people have begun to consider that finding jobs for the unemployed was a privilege rather than a means of exploitation of the defenseless laborer but this feeling had not become a sufficiently strong sentiment to manifest itself in any effective protest until the legislature of June 1915, passed the Bill creating a State Bureau of Employment in the Department of Labor and Industry. Up to this time, in the State of Pennsylvania, the finding of employment for the people of this State, has been left entirely to the unsupervised individual private agents, who, in a great majority of cases do this work chiefly with the thought of earning a comfortable income rather than considering the welfare of the persons applying to them for assistance. Before the year 1907, so many private agents came before public attention in one large city on account of the numbers of frauds perpetrated by them, that a group of women organized an association for the investigating of the conditions in the private agents' offices. Mainly through this activity, a bill was passed in the 1907 legislature, giving cities of the first and second class the right to inspect and regulate the work of the private agents.

This law, however, did not state that these cities *must* provide for this inspection but that they might if they cared to, so that only Philadelphia, Pittsburgh and Scranton attempted any such work. Philadelphia, last year, had on its list of licensed agents, nearly two hundred; Pittsburgh had on its list, about one hundred, Scranton went to the extent of licensing two agents. The agents throughout the State number four to five hundred at the present time and up to the passage of the Act of 1915, except for those mentioned in the three cities above, have had no regulations whatever. By the Act of 1915, the licensing of private employment agents throughout the State, was given entirely to the control of the State Bureau of Employment. By this Act, the whole duty was removed from the cities and given entirely into State control.

The private agents according to the old law and old method of working, charged a registration fee to all applicants applying to them for positions. This means the receipt of a great many dollars daily for which, in most cases, there was no guarantee of any effort to be made

to assist the applicants in obtaining positions and in the majority of cases it is very possible that no effort was made. Under this new law, no registration fee is allowed to be charged and a rule has been made that until an applicant is actually given an employer's name and address and the information concerning the position he offers and is actually started on the way to interview the employer, then, only, (if at any time), is the agent allowed to charge an advance fee for his services. If the applicant fails, through no fault, of his own, to secure the position, his money must be returned in full on demand.

The Bureau has been asked by these agents to give them set forms of contracts and schedules of fees to be charged, but since it has, at any time, the power to make rules guiding the methods of the agents, it has not at the present time attempted to have them all use uniform contracts and schedules but have merely criticised their old forms, eliminating from them anything that would be contrary to the law as regards the registration fee.

Besides the duty of regulating the work of the private agents, this Bureau also has the work of organizing a system of free employment offices in cities throughout the State of Pennsylvania, the clearing house of which is located at Harrisburg. Up to the present time, the District Offices that have been organized are in Harrisburg, Philadelphia and Johnstown. Pittsburgh, Scranton and Allentown will be organized in the near future. It is expected that the District offices will conduct the filling of orders and applications for employment within certain stipulated districts, while the Clearing House at Harrisburg will receive all orders and applications which the District Offices are unable to fill. The Clearing House will then take upon itself the work of filling these positions and orders by communication with the various districts. In this way, an extended knowledge of the labor conditions will be obtained and the possibilities of finding suitable employment for the working man and the proper sort of employes for our industries will be greatly enlarged.

By means of the Daily Reports of the District Offices which are sent to the Clearing House at Harrisburg, as well as through the Weekly Reports which the Private Employment Agents are required to send to the Bureau, it is expected that a fairly accurate statistical report of the labor market will be obtained.

The Bureau is soliciting the co-operation of all those doing employment work of any kind, in the operation of its District Offices and it is depending upon the co-operation of private organizations for the carrying on of its great work. As the Bureau at the present time is limited as to the number of its employes, it is only by co-operating with local organizations that it can hope to obtain the results it strives for. The Bureau is also encouraging the sending of reports to the main office at Harrisburg, of all the work done by the Employment

Bureaus of Charitable Organizations, Manufacturer's Associations, Schools and Vocational Guidance Bureaus. It will furnish free, on request, to all such co-operating agencies, all the blank forms and schedules with which to make such reports.

It is hoped that the manufacturers of the State will co-operate with this Bureau by sending it as many orders as they are able, and that they will learn by experience from the results obtained that the Bureau means business. All applicants sent to them can be relied upon as having suitable credentials as their records are looked up before they are referred to an employer. Any applicant for a position in any of our industries, who carries a card from this Bureau, should be at once considered a person deserving of attention.

Up to this time, although actually in operation only for a period of about one month the Harrisburg District alone has received hundreds of applications for positions and also scores of employer's orders. There is a much greater demand for unskilled workmen and yet, a number of applications have come for high class men with technical and professional training. It is interesting to note, however, especially in the Harrisburg District, how many applicants for positions wish indoor work and chiefly clerical work for which the blanks they fill out prove them decidedly unfit. The application for this kind of position are usually conspicuously misspelled and poorly worded. It is hoped that such applicants can be guided to choose work more suitable to their training.

One of the difficulties which this Bureau has to contend with at the present time is the carelessness of some of its applicants in not reporting to employers to whom they are sent, or sometimes reporting to employers, obtaining positions, but then not letting this Bureau know of their success. It is hoped that in time applicants for positions will learn to be grateful enough for the free service given them, to do their share in carefully reporting the result of the efforts of this Bureau in their behalf.

The following are some of the openings offered:

Stove mounters, planers, lathers, borers, fitters, floor hands, operators on shirts, glass makers, lumber handlers, structural iron workers, brick makers, quarrymen, coal miners, chain makers, cigar makers, machinists of all kinds, weavers, warpers, loom fixers, butchers, instrument makers, office clerks, solicitors, canners, blacksmiths and gold leaf beaters.

The application for positions in the Harrisburg District range from that of Sales Manager at \$7,500 down to that of House Work Girl at \$3.00 per week. These applications show great variety. On the list are mechanics, night-watchman, salesmen, teamsters, grocery-men, clerks, farm hands, painters, brick layers, carpenters and day laborers.

It is hoped that the Bureau has now started on a useful career and that its first year may see great results in the finding of positions for the unemployed and in supplying employers with the right men for the right jobs, and also that the work of the Private Employment Agents will become more systematic and that they will become more careful in the management of their offices.

NEW FORM OF ACCIDENT REPORTS.

The organization of the Pennsylvania Department of Labor and Industry, made necessary many new forms and methods in the collection of statistics.

One of the important features of the responsibility placed upon the Bureau of Statistics and Information, of the Department, was the collection and compilation of statistics on accidents happening throughout the State. The original form of accident blank used by the Bureau was in three parts; the first part being made immediately after the accident, followed by parts two and three, as the data became available.

During the year 1913, a new and much more desirable form of report was adopted by the National Committee on Standardization of Forms, in the adoption of which the Bureau of Statistics and Information took an active part, and through its Chief, was instrumental in securing the adoption of the new form used during the year 1915. That form is also used by other States making it possible for the general government to compile accident statistics, covering all the territory under its jurisdiction.

The enforcement of the Workmen's Compensation Act, which is effective on January 1, 1916, makes necessary a new form of report to cover data required by the Workmen's Compensation Board.

All the matter and data covered by the report used in 1915 was incorporated in the new blank, for use in the year 1916, and to comply with the requirements of the Workmen's Compensation Board, a few new questions were added. The form was changed in one particular, that being in the supplementary report attached, and enabling a completion of the original report where the accident covers a period of more than thirty days.

This new form to be used in the year 1916, will be in duplicate, one copy to be sent to the Department of Labor and Industry, the other to be sent to the Insurance Carrier.

Copies of these forms follow, and a careful study will demonstrate the desire of the Department to lighten the burdens of those whose duty it is to make reports of this nature.

County..... Class..... Code..... Plant No.....
 A..... C.....

PENNSYLVANIA DEPARTMENT OF LABOR AND INDUSTRY

BUREAU OF STATISTICS AND INFORMATION HARRISBURG, PA.

(IF POSSIBLE FILL IN THIS REPORT ON TYPEWRITER, IF NOT WRITE PLAINLY.)

This blank should be returned to the Bureau of Statistics and Information, Harrisburg, Pa., as soon as filled out. The duplicate blank attached should be sent to your insurance carrier. Return to be made within 48 hours after accident occurs. As far as possible an answer should be made to every question.

EMPLOYER'S REPORT OF ACCIDENT TO EMPLOYEE.

1. Name of employer,
 City or town,
2. Office Address: Street and No.....
3. Nature of business,
4. Location of Plant where accident occurred: Street and No.
 City or Town,
5. If accident occurred away from plant, state where,
6. Date of Accident.....7. Day of Week.....8. Hour of Day.....
9. Hour injured person began work that day,
10. Working hours per day.....11. Working hours per week.....
12. Name of Superintendent or person in charge at time of accident.....
13. Name of injured employe
 Home address
14. Sex.....15. Age.....16. Speak English?.....17.
 Nationality and race.....
18. Single, married or widowed.....19. No. of children under 16 years.....
20. Physical defect: Eye, Ear or otherwise.....
21. Has Employe reserved his common law rights?.....If so, when?.....
22. Wages or average earnings weekly?.....23. Piece or time worker?.....
24. Engaged in what work when injured.....
25. In what department or branch of work.....
26. Was this the regular occupation of employe?.....
27. If not, state regular occupation.....

28. Name of machine, tool or appliance in connection with which accident occurred
 29. Hand feed or mechanical?.....
 30. By what kind of power driven?.....
 31. Part of machine on which accident occurred.....
 32. Length of experience at machine or operation.....
 33. Describe in full how accident occurred, stating cause clearly.....
.....
.....
 34. Was a safeguard in use at the time of the accident?.....
 35. Is it possible to provide a guard, or safety appliance that might have prevented the accident?
 36. Was the machine, tool or appliance out of order or ill suited for the work?.....
 37. Were special instructions given to the injured person in relation to its use?.....
 38. Names and addresses of witnesses.....
.....
.....
 39. Nature of injury, as definitely as possible.....
 40. Part of person injured. (State whether right or left).....
 41. Attending physician or hospital, name and address.....
 42. State your estimate of probable disability.....
 43. If injury resulted in death, give date.....
 44. Name of insurance carrier.....
 - Date of Report.....Made out by.....
-

If employe is disabled detach here sending in supplemental report upon return to work, or, in any event, at the end of 30 days.

If employe is NOT disabled, or if death resulted, fill in, but do not detach.

SUPPLEMENTAL REPORT OF AN ACCIDENT TO AN EMPLOYEE.

1. Date of previous report.....
2. Name of Employer.....
3. Office address: Street and No.....
City or Town.....
4. Name of injured employe.....
5. Present address of employe: Street and No.....
City or Town.....
6. Has injured person returned to work?.....Date of return.....
7. Number of days lost.....
8. At what occupation.....
9. Present rate of wages per week?.....
10. If injured person has not yet returned, state estimate of further disability....
.....
- Date of Report.....Made out by.....

NEW PRODUCTION REPORT.

With a desire to perfect a more complete production report for the year 1915 and also to facilitate the making of reports of this nature, both to the State and to the General Government, the Bureau of Statistics and information have prepared a new and more easily understood blank than was used for the year 1914.

This report will carry practically the same information as the form which it supersedes, but is less complicated.

The new feature for reports covering the year 1915, includes a table covering the classified weekly rates of wages. This part of the report is made for the one week of the year in which the greatest number of persons were employed, and when compilation shall have been completed it will show the average wages paid in the manufacture of the various products covered by the reports for the whole State, and also the average number of wage earners employed each month in the year.

Material contained in these reports is regarded by the Department as confidential, and is not used for purposes of taxation. Compilations from the reports are published in the aggregate only, and not by individual, co-partnership, or corporation classification.

THE WORKMEN'S COMPENSATION BUREAU.

Referees have been assigned to the compensation districts as follows:

W. B. Scott, 606 W. Lehigh Avenue, Philadelphia, and *G. C. Klaunder*, Bala, Pa., to District No. 1, including Philadelphia, Delaware, Chester, Montgomery, and Bucks Counties. Headquarters, Philadelphia Pa.

Paul Houck, Pottsville, Pa., assigned to District No. 2, including Berks, Schuylkill, Lehigh, Northampton and Carbon Counties. Headquarters, Pottsville, Pa.

G. W. Beemer, Clark Summit, Pa., assigned to District No. 3, including Montour, Columbia, Luzerne, Monroe, Pike, Wayne, Lackawanna, Susquehanna and Wyoming Counties. Headquarters, Scranton, Pa.

E. K. Saylor, Lancaster, Pa., assigned to District No. 4, including Dauphin, Lebanon, Lancaster, York, Adams counties. Headquarters, Lancaster Pa.

W. W. Champion, Montoursville, Pa., assigned to District No. 5, including Tioga, Lycoming, Bradford, Sullivan, Union, Snyder, Potter, Northumberland, Centre, Clearfield, Clinton and Cameron counties. Headquarters, Williamsport, Pa.

Jacob Snyder, Roaring Springs, Pa., assigned to District No. 6, including Cambria, Blair, Huntingdon, Mifflin, Juniata, Fulton, Bedford, Somerset Counties. Headquarters, Altoona, Pa.

Charles H. Young Newcastle, Pa., assigned to District No. 7, including Erie, Warren, McKean, Elk, Forrest, Venango, Mercer and Crawford Counties. Headquarters, Erie, Pa.

L. E. Christley, Butler, Pa., and *Thomas J. Dunn*, Pittsburgh, Pa., to District No. 8, including Lawrence, Butler, Clarion, Jefferson, Indiana, Armstrong, Westmoreland, Fayette, Greene, Washington, Beaver and Allegheny Counties. Headquarters, Pittsburgh, Pa.

RULINGS OF THE STATE WORKMEN'S COMPENSATION BOARD.

Rulings made by the State Workmen's Compensation Board since the publication of the November Bulletin, are as follows:

"A non-resident alien woman claiming as a dependent widow, may prove her marriage by a state record of the civil marriage or the church record of a religious marriage."

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"In all cases in which applications for exemption from carrying insurance are made, the applicants will be required to answer the following questions:

1. Will it be your policy to discriminate against an employe with a large family in favor of an unmarried employe or an employe with a small family?

2. Will you discriminate against an American in favor of an alien employe?

3. Will you discriminate against a man on account of his age when he is otherwise well qualified?"

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"The notice required by Section 302-(a) notifying the employe of the employer's refusal to accept Article III, shall be personally served upon each employe by furnishing him with a copy of same, and informing him of its contents in a language understood by him."

“No certified copy of any agreement or claim petition will be issued for the purpose of filing a lien as provided for in Section 429 of the Workmen’s Compensation Act of 1915 where the employer is insured in the State Fund and has given notice of an accident within seven days after its occurrence.”

UNDERWRITING COMPENSATION INSURANCE.

Underwriting of compensation insurance, covering the liability of employers, subject to the Workmen’s Compensation Act of 1915, began in all sections of the State December 13th. This state-wide activity in liability insurance followed the announcement by the State Workmen’s Insurance Board of the rates as approved by the Insurance Department. Approximately 200,000 employers in Pennsylvania must protect their employes by compensation insurance.

The approved rates which must be observed by the authorized Stock and Mutual Insurance Companies are based on each \$100.00 of annual pay roll, and must be applied only for coverage of compensation liability. The State Insurance Fund is allowed a ten per cent reduction under the rates as approved for stock companies. The State Fund will charge \$5.00 as a minimum for a single policy.

The manual containing the approved rates is the first to be issued in this State, and contains a number of rulings regulating the writing of compensation insurance. Stock companies must limit their cost of acquiring business to $17\frac{1}{2}$ per cent. of their premium income.

Industrial plants, which install safeguards to protect their employes from injury, will be given schedule inspections by inspectors from the Department of Labor and Industry, and the Central Rating Bureau, to determine percentages of reduction from the approved rates, in recognition of the precautions that they have adopted within such plants.

The manual which has already been forwarded to the authorized insurance carriers, including the State Fund, designate the division of pay rolls and the methods which should be used in underwriting the different hazards of all risks.

Principal operation of a plant is the governing classification of its risk. Subdivision will not be permitted, unless separate and distinct enterprises are conducted by the same employer, without interchange of labor.

Exceptions are made for executive officers, clerical and office employees, salesmen, collectors and messengers, draftsmen, drivers and drivers' helpers, chauffeurs and chauffeurs' helpers, blasting, stamping operations, railroad hazard and extraordinary alterations and repairs.

The minimum premium that will be charged by stock and mutual companies is \$10.00, except on contractors' risks for which it is \$20.00. Blasting operations require an additional minimum of \$25.00.

LADDERS MUST BE BUILT ACCORDING TO REGULATIONS.

Ladders, prolific causes of accidents in industries, must hereafter be built in accordance with regulations laid down by the Industrial Board of the State Department of Labor and Industry.

Regulations governing ladder construction have been formulated for ladder manufacturers and proprietors of industries using ladders.

Any ladders used in industries come within the rules of the Board after January 1, 1916. Ladders of municipal fire departments and the household step ladder are excluded. Every ladder used around industrial plants must be numbered or similarly designated and regularly inspected. Use of broken or weak ladders or ladders with missing rungs is prohibited, and defective ladders must be destroyed.

The complete Safety Standards for ladders are as follows:—